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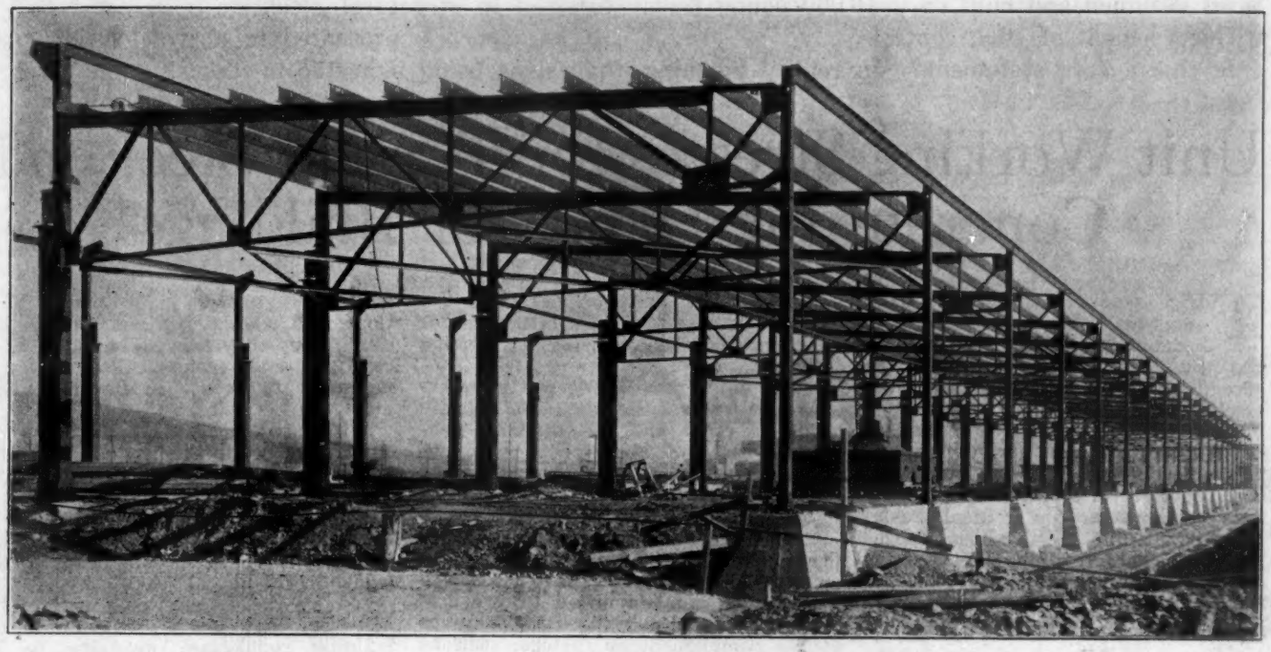

The Report of Building Code Committee States It Is Estimated 90 Per Cent of Structural Steel for Buildings Is Designed and Erected Without Proper Supervision—Is This a Fair Estimate?

Is This Report Fair To Steel?

Building Code Committee's Recommendations for Unit Stresses Seem To Question Quality of Steel and Control of Fabrication and Erection—Personnel of Committee Lacks Representative of Structural Steel

UNIT working stresses for timber, steel and concrete for the design of buildings are proposed in a report of the building code committee of the United States department of commerce. While 16,000 pounds per square inch unit stress for structural steel is suggested instead of the 18,000 pound figure advocated by the makers and fabricators of this steel, the principal objection to the report from the standpoint of the steel industry is its solicitous defense of timber and concrete and its thinly veiled inferences that steel is a material of questionable quality, is fabricated under suspicious conditions and is erected without proper supervision.

Possibly the disappointing treatment of structural steel is unintentional; yet in examining the list of members of the committee, one fails to find a representative of structural steel.

The report contains the statement that "competitive influences are constantly at work to increase the stresses used for the major building materials," yet later infers this applies to steel but not to timber and concrete. Control of structural steel design is declared to be all wrong while that of other materials, not specifically mentioned, apparently is satisfactory. Specifications of well known societies for steel are ignored or discounted, but specifications sponsored by the same organizations are upheld as models when applying to other materials.

One statement appearing in the Appendix, Paragraph 17, is as follows: "Over 90 per cent of structural steel buildings are estimated to be designed and erected without supervision of those whose training and experience fits them to determine accurately what the loads, stresses and special conditions affecting safety will be."

Is the estimate of 90 per cent reasonable? If so what are the corresponding figures for timber and concrete and why are they not included in the discussion of stresses for those materials?

Another important sentence reads: "If, however, the responsibility and competency of those in charge of construction is thoroughly estab-

lished, and if measures are taken to control the many factors affecting safety, it is felt that stresses predicated on the 18,000 pounds per square inch basic figure could be used with as great prospect of safety as characterizes structures designed and built on a 16,000 pound basis without benefit of such control."

Is this a safe statement? In reality meaning less, does it not give the impression that unit stresses can be increased according to the degree of competency of the designers and erectors? And who is to judge such competency? These and other questions might be asked by those interested in structural steel.

The report is presented in abstract below, all omissions being indicated in italics.

Unit Working Stresses for Timber, Steel and Concrete for Design of Buildings

THIS report is in three parts, of which the first describes the organization and purposes of the Building Code committee; the second presents requirements tentatively recommended for adoption in building codes; and the third explains briefly the grounds upon which the recommendations of Part II are based. The report is in tentative form and is being submitted for critical review to a number of those whose interest and experience qualifies them to discuss these subjects with authority.

PART I.—INTRODUCTION

The Building Code Committee of the Department of Commerce was organized early in 1921, in response to a generally expressed public demand for greater uniformity and economy in building code requirements.

Diversity of Present Stress Requirements

It is well known that existing building codes differ as to the unit working stresses allowable for construction materials. That such variations are considerable in amount will be seen from tables presented in the Appendix. Considered with reference to present information on the yield points and ultimate strengths of materials, code requirements may be characterized in some cases as ultra conservative and in others as too liberal for complete safety. Variations in stress limits of different cities and in the manner of their statement, with resulting possibilities of misunderstanding, cause much inconvenience to architects and engineers responsible for building design. There is involved in some cases an unnecessary additional cost of building, and in other cases the safety of structures may fall below the standards generally regarded as desirable. Unjustifiable departures in stress requirements at times result in cost differentials sufficient to handicap one material or construction type seriously in competition with others. It is generally desirable that greater uniformity obtain in such code requirements.

There is also the situation, to which attention is given later in this report, that competitive influences are constantly at work to increase the stresses used for the major building materials and that an unprejudiced statement of the considerations involved in such proposals is needed for guidance of those writing or revising codes.

The differences between the working stress requirements of certain building codes and the standards generally accepted are sometimes offset by compensating departures in live load assumptions or other influential factors, with the result that construction is safe and under the circumstances reasonably economical. In other instances this is not the case. The Building Code committee in previous reports has already treated some of these complementary factors, such as live load assumptions and the quality of certain materials. The recommendations of this report are predicated on those of previous publications and should be used with caution unless the Committee's findings in other related questions are also adopted.

Scope and Purpose of Report

This report presents in tentative form working stress requirements for timber, steel and concrete, plain and reinforced, with an appendix explaining the reasons for certain of the recommendations and giving in condensed form recently developed information bearing on the limits suggested.

The report is submitted for critical discussion to a large number of architects, engineers, building officials and others whose experience in building design and construction qualifies them to discuss such matters with authority. The tentative draft will be reconsidered with reference to the consensus of opinion thus obtained and published as a Department of Commerce recommendation for building regulation.

The committee's recommendations for concrete and timber are based very largely on those of the joint committee on Standard Specifications for Concrete and Reinforced Concrete, and on the work of the United States Forest Products laboratory. These organizations have been instrumental more than any other in ascertaining and codifying good practice in their respective fields. Their findings already represent a very wide consensus of opinion, and the issue to be decided in discussing this tentative report is perhaps not so much the technical sufficiency of the recommendations supported by these organizations as the practicability for building regulation in ordinary situations, and whether, as adapted by the committee, they can be applied successfully and economically as legal measures to secure safety in building.

With structural steel the case is only slightly different. The subject of steel stresses has of course been under professional scrutiny for many years and has lately been investigated by two responsible organizations, the resulting recommendations being somewhat more liberal than those proposed by the Committee. It is felt, however, that the present status of building regulation, involving as it does in many cases only a haphazard control over design construction and inspection, does not justify a marked increase in present code stresses for steel. The reports of the Committee retained by the American Institute of Steel Construction, and of the American Society of Civil Engineers Special Committee on Stresses in Structural Steel, which undoubtedly will be widely quoted in this connection, are predicated on competent design and construction where higher stresses are used, and seem to reflect a doubt as to the safety of such higher stresses where conditions are otherwise. The Building Code committee has reversed this procedure by requiring lower stresses except where competent design and construction are insured. This puts the burden of proof on the applicant to build instead of the building official.

PART II.—RECOMMENDED CODE REQUIREMENTS

Section 1. General Requirements

All members shall be so framed, anchored, tied and braced together as to develop the maximum strength and rigidity consistent with the purposes for which they are used.

Section 2.—Unit Stresses in Wood Members (Omitted)

Section 3. Safe Loads for Columns (Omitted)

Section 4. Unit Stresses in Rolled Steel

1. Stresses in steel of structural grade obtained without a definite specification, or under the Standard Specification of the American Society for Testing Materials for "Steel for Buildings," shall be limited to the

following values in pounds per sq. in.:

	Pounds per square inch
Direct axial tension	16,000
Direct axial compression, maximum	12,500
Fiber stress in beams and other sections, tension or compreession	16,000
Fiber stress in pins	24,000
Shear in webs of girders or beams, maximum on cross section	10,000
Shear in shop-driven rivets or in pins	12,000
Shear in field-driven rivets in rough bolts	9,000
Bearing upon shop-driven rivets, pins or upon faced surfaces	24,000
Bearings upon field-driven rivets, or upon rough bolts	18,000

Columns shall be limited in slenderness to l/r equals 160 in which l equals unsupported length and r equals least radius of gyration. Between 12,500 pounds per square inch and a slenderness of l/r equals 160 the allowable stress shall be determined by the formula F equals 16,000 —60 l/r or some equivalent expression.

Compression flanges of beams and girders when unsupported laterally shall not be used for a length exceeding 40 times their breadth. In case the length exceeds 15 times the breadth, the stress shall be reduced by the formula f equals 19600—240 l/b, in which l equals length and b equals breadth.

The combined stress due to flexure and direct axial loading shall not exceed the fiber stress specified for flexure. The axial stress alone, if compression, shall not exceed that allowed in columns.

The shear in webs of beams and girders shall not exceed 10,000 pounds per square inch on the gross section nor shall it exceed 12,000—40 d/t in which d equals the clear height or distance between stiffeners and t equals the thickness.

2. In steel rolled in accordance with the standard specifications of the American Society for Testing Materials for "Steel for Bridges" the stresses enumerated in paragraph (1) may be increased by 12½ per cent.

3. For stresses either direct or flexural produced by wind forces or a combination of wind forces and vertical loads, the units allowed in paragraphs (1) and (2) may be increased by twenty-five (25) per cent, provided the resulting sections are not less than those required for the vertical loads alone.

Sections 5. Unit Working Stresses in Concrete and Reinforced Concrete.

(*Paragraphs* 1, 2, 3, 4 *and* 5 *omitted*)

6. If and when it is shown by evidence of tests made by competent authorities satisfactory to building officials that concrete of a higher strength than that specified in the proceding paragraph will be used, the unit stresses may be correspondingly increased.

7. The tensile and compressive stresses in steel reinforcement shall not exceed 16,000 pounds per square inch. Concrete shall not be assumed to resist direct tensional stress. (See Appendix. Par. 19-8)

8. In the absence of rules adopted by the building official and except as otherwise specifically provided in this code, the formulas and specifications of the Joint Committee on Standard Specifications for Concrete and Reinforced Concrete, representing the American Society of Civil Engineers, the American Society for Testing Materials, the American Railway Engineering association, the American Concrete institute, and the Portland Cement association, shall be assumed in calculating the strength of concrete and reinforced concrete structures and designs shall conform thereto. (See Appendix, Par. 2.)

PART III.—APPENDIX

Par. 1. Purpose.

The Appendix consists of explanatory matter referring to Part II, and is a vital part of this report. (The Building Code committee believes that every building code should be printed with an appendix containing sufficient explanation - - - - -

Par. 2. Sources of Information.

Part II requirements for timber are based on investigations by the United States Forest Products laboratory, Forest Service, Department of Agriculture, supplemented and checked by various national Associations, concerned with the utilization of timber. (*The remainder of this paragraph is devoted to information regarding the Forest Products laboratory.*)

In preparing recommended stress requirements for steel the Building Code committee has considered among other sources of information the report of the committee of architects and engineers retained by the American Institute of Steel Construction to investigate and recommend steel construction requirements for building codes, and the tentative report, submitted at the January, 1925, meeting of the American Society of Civil Engineers by a Special Committee on Stresses in Structural Steel, appointed in August, 1922. This latter report is not final in character, and it is hoped that its discussion by Society members may throw some further light on the subject.

The recommended stresses for reinforced concrete are based mainly on the latest report of the Joint Committee on Standard Specifications for Concrete and Reinforced Concrete. This report is the outcome of a long series of investigations under the auspices of interested national organizations. (*The remainder of this paragraph and one other paragraph are devoted to sources of information for concrete.*)

Par. 3. Influence of Building Inspection.

(*All of this is omitted except the last paragraph which reads as follows:*)

Such measures, compelling careful design and construction would bear dividends not only in increased safety but in economy. Building code requirements usually represent a compromise between higher stresses and more economical practices which are safe when employed by experienced designers and constructors, and those necessary for some measure of safety where competent service is not required. The issue between 16,000 and 18,000 pound stresses for steel with its possible marked economy in the use of this item, is not so much a question of what the material will safely bear, as whether the designer is able to predict accurately the stresses which will actually occur and build the structure to resist them. Until his ability to do this can at least be presumptively established in every case, those who employ competent service will continue to be penalized by building codes for the shortcomings of inexperienced designers.

Par. 4. Variations in Building Code Requirements.

(*This section, including a number of important tables, is omitted, except the last paragraph which reads as follows:*)

Until recently code requirements for structural steel stresses had been uniformily based on a maximum of

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16,000 pounds per square inch in tension and compression, though the stresses allowed for rivets varied considerably and a number of column formulas were in use. Efforts by those interested in more economical utilization of steel based on confidence in the uniformity and dependability of the present quality when properly used, have changed this somewhat and practice among the larger cities is divided between the older scale of stresses and a scale based on a maximum stress of 18,000 pounds per square inch.

(Paragraphs 5 to 16, inclusive, dealing with timber, are omitted.)

Par. 17. Unit Stresses in Steel.

The question of the proper unit stresses for steel to be used in the design of buildings resolves itself into two independent considerations:

(1) What is the proper basic unit, with reference to the strength of the steel in common use?

(2) What are the relative values of the different forms of stress?

Par. 1. The Basic Unit.

The basic stress is, naturally, a direct axial stress in tension. To decide upon this it is necessary only to decide what is the average strength of the metal to be used, and what factor of safety should be applied to this strength.

With the first introduction of rolled steel on a commercial basis specifications commonly called for a "medium grade" having an ultimate strength in test specimens of from 60,000 to 70,000 pounds per square inch. During the past 20 years the use of this grade has given place almost entirely to the lower grade known as "structural," having an ultimate strength of between 55,000 and 65,000 pounds per square inch. This grade is now called for by the Standard Specifications of the American Society for Testing Materials, the American Railway Engineering association and the American Society of Civil Engineers. In deciding upon working units it is logical to consider this grade of steel as the material which is to be used.

Structural steel is specified to have a yield point of at least 50 per cent of the ultimate strength, or from 27,500 pounds to 32,500 pounds per square inch. If a tension of 16,000 pounds is adopted it gives a factor of about 1.75 with reference to the minimum yield point or 3.50 referred to the ultimate strength. Neither of these factors, however, has a very definite meaning. The yield point is the intensity of stress at which the metal begins to undergo a slight permanent change in shape, but it is not by any means a point of failure in tension. In fact, since the yielding is in the direction of greatest stress it tends to readjust the structure to its loads and by correcting imperfections of workmanship or fit, to bring the members under least stress to the aid of those which have reached the yield point. This readjustment is similar to the familiar process of breaking in a pair of shoes.

Neither is the ultimate tensile strength of small test specimens a true criterion of the limiting strength of a structure. Full size fabricated material cannot be expected to develop the same unit strength as concentrically-loaded, parallel-edge specimens. The exact point of failure of tension members as actually used, is not very clearly established. It is well above the yield point, but below the ultimate of tensile specimens, that is, it lies between 27,500 and 55,000. An assumption of 40,000 pounds per square inch is about the mean between the known extreme. This is thought to be on the safe side and not ultra-conservative. It gives a factor of 2.50 with a working stress of 16,000.

The origin of 16,000 pounds as a basic stress appears to have been with the idea that this gave a "factor of safety" of four, the ultimate then in use averaging 64,000. If so, its original significance has long disappeared by the general acceptance of a lower grade of metal. The unanimity with which the 16,000 has been accepted, not only in this country but in Canada and Australia, and the persistence with which it has been retained, is remarkable. Up to the last three or four years there has been no movement to increase stresses above this base, but recently there has been a movement to secure the adoption of higher stresses in building codes. One of the arguments advanced for this increase is, that when the 16,000 pound stress was first introduced, the use of bessemer steel was quite general; but that now the open-hearth product has practicalley superseded bessemer in the rolled material used for structural work, and that the open-hearth product is extremely uniform and reliable. The fallacy of this argument is apparent when the evidence of such uniformity is subjected to a closer investigation. The present method of acceptance, testing, for example, specifies yield point determinations. Those who are familiar with testing methods know that it is very hard to get check results by different operators on different machines. The conditions of testing, speed of operation of testing machine and personal equation of the operator—all seriously affect the results obtained. Mill tests rarely agree with those carried out more carefully in standard testing laboratories.

Again, yield point determinations do not give, except in a general way, information of the true behavior of steel under stress. For similar grade, that material having the higher yield point will possess the higher proportional limit. The relative values of the proportional limit cannot be determined, however, from a yield point test of present day steels. In fact, it is doubtful whether any two specimens taken from the same grade of steel as now furnished will show like stress strain characteristics, and the most marked differences will come in the evaluation of the proportional limit stress. The proportional limit stress is, at present, practically ignored in acceptance testing. It is therefore given slight consideration in the determination of working stresses of the material.

(*The remainder of Par.* 17 *is omitted, as are paragraphs* 18, 19 *and* 20 *dealing with concrete.*)

Origin of British Iron Ores Traced

By Edwin C. Eckel

DURING the past five years the British geological survey has published a series of very detailed and valuable reports on the various iron ore regions of England, Wales and Scotland. These are now supplemented, and to some extent placed in definite relation, by Volume XXIX of the Special Reports on the Mineral Resources of Great Britain. This volume, which has just appeared, is entitled "Iron Ores: Bedded Ores of England and Wales. Petrography and Chemistry," and is an octavo of 139 pages. Its author is A. F. Hallimond, while an appendix on certain chemical tests is by F. R. Ennos and R. Sutcliffe.

Devoted specifically to the bedded iron ores of Great Britain, the report is in reality a very detailed discussion of the general relations and chemistry of the sedimentary ores in general, including here, of course, those of direct or indirect chemical origin, deposited in water basins, and essentially contemporaneous with the enclosing rock beds. Stress is laid upon the alumina-iron silicate *chamosite* in its relation to the origin of many of these ores; and a simple formula of the type $2SiO_2$. Al_2O_3. $3FeO$. + water is worked out for that mineral.

Based upon mineralogical composition and other factors, Hallimond classifies the British sedimentary iron ores as follows:

A. FERROUS IRON ORES:

1. Chamosite mudstones and chamosite-siderite mudstones—oolitic or compact. Example; the Cleveland Ironstone.
2. Siderite mudstones, compact, nonchamostic. The Coal Measures Ironstones.
3. Siderite Limestones. Local

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ores.

B. FERRIC IRON ORES:

4. Ferric chamosite oolites, contsining free oxides of iron. Examples, pisolitic ores in North Wales.
5. Limonite oolites. Example, the Frodingham Ironstone.
6. Primary hematites. Examples, the Crinoidal hematite of South Wales.
7. Glauconitic rocks, not of commercial value as ores.

From a tonnage or commercial standpoint, the really serious sedimentary iron ores of England fall in one of the first two groups, A.1 and A.2. These differ, it will be noted, in the presence of chamosite in the ores of group A.1 and in its absence from those of A.2. Hallimond summarizes this and the other striking differences between the two groups about as follow:

The siderite mudstones, which make up the ironstones of the coal measures, "consist of siderite, usually fine-grained, with from 0 to 30 per cent or more of a residue insoluble in acid and having the composition of an alkali-bearing fireclay. Chamosite is absent, and the clay ironstones differ essentially in this respect from the chamosite mudstones." They differ also in details of origin, for the chamosite ores of the Cleveland region are in purely marine beds.

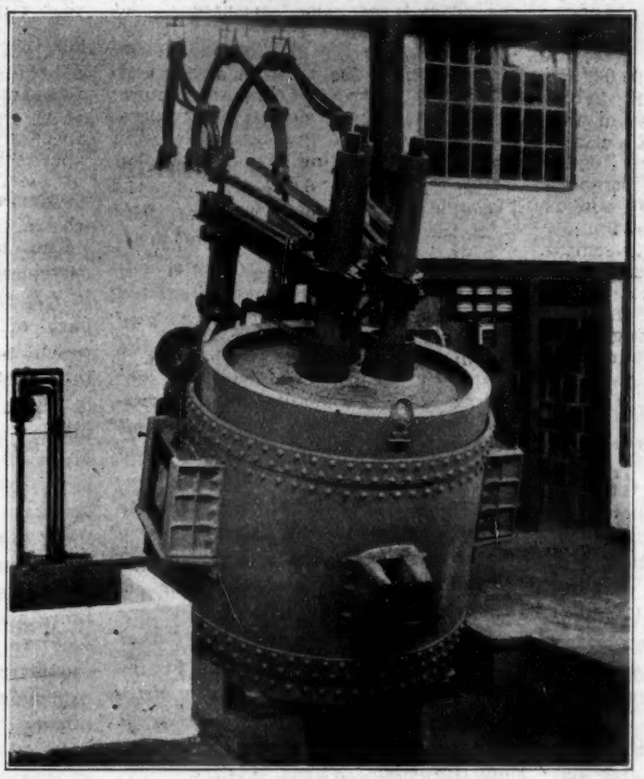
Develop Electric Furnace for Foundry

PRIMARILY designed for melting steel under conditions that approached the ideal as nearly as possible, the electric melting furnace has been modified by various makers in many respects in recent years and now is employed quite freely in melting nonferrous metal in addition to iron and steel. This is all the more remarkable in view of the fact that the first electric furnace was perfected in Italy only about 25 years ago. It was not until 1908 that the electric steel furnace was employed in the United States for the manufacture of steel castings. Now it is reckoned the second largest melting medium. From an initial output of 55 tons in that year the amount steadily has increased until at present the amount of steel melted electrically is approximately 16 per cent of the total steel poured into castings in this country. Sentiment for some time among foundrymen, particularly foundrymen closely connected with the metallurgical phases of the industry, has been inclined toward the adoption of the electric furnace as a supplementary or refining medium to be used in conjunction with the cupola, open hearth or reverberatory furnace, in which the iron, steel or malleable iron is melted originally. Probably in the great majority of instances, castings poured from metal melted in any one of the three foregoing types of furnaces, are fairly satisfactory. They meet existing specifications. However, the tendency constantly is toward still more exacting specifications.

The latest design of electric furnace for melting steel and iron, recently has been erected and placed in operation in the foundry of the Bingham & Taylor Co., Buffalo. The basic features and general appearance of this furnace do not differ to any material extent from other electric furnaces at present on the market. However, the general construction features and operating mechanism present many points of difference including high electrical efficiency.

The present furnace represents the crystallized ideas of J. W. Gibney Sr., his son James L., and David McLain collected over a period of several years both in this country and in Europe. Mr. Gibney has been foundry manager of the Bingham & Taylor plant for over 20 years and for a considerable part of that time has made steel castings by the electric furnace process. James L. Gibney was given a course of training common enough in the great engineering plants of Europe, but not practiced to any great extent in this country. He was sent through the drawing office, the foundry, the pattern shop and the machine shop. His education was rounded out by practical operating experience on the electric furnace, a metallurgical course at Cambridge, Mass., and a year's trip to Europe.

Before going to Europe he had visited typical electric furnace installations in this country, and had noted their operating and equipment features. On his return the mass of accumulated information was analyzed, tabulated and the various related items were set up for comparison. The result is the furnace shown in the accompanying illustration. It has a rated capacity of 2500 pounds, but plans have been prepared for two additional sizes, one of 1000 pounds and the other for 6000 pounds. Mr. Gibney's preliminary training enabled him to make his own drawings, patterns and castings and later to assemble the furnace and place it in operation. David McLain has been connected with the steel and iron foundry interests for over 50 years and is widely known through his teaching and consulting contacts. The furnace is mounted on rockers through which it may be tilted forward a sufficient distance to drain the hearth. It may be tilted backward a sufficient distance to receive hot metal either from the cupola or any other form of furnace at the pouring spout.



GENERAL APPEARANCE OF THE 1½ TON ELECTRIC FURNACE ALL SET UP AND READY FOR OPERATION

The furnace is of the direct-arc type used for making a general run of iron-carbon alloys, alloy steel and metal requiring high melting tempera-

(*Concluded on Page* 105)

The Reds: Are They a Real Menace to American Industry?

III—The Mechanism of the Red Movement

By Ralph E. Duncan
News Editor, *New York Commercial*

COMMUNIST and socialist organizations in the United States systematically foster the happy assumption that America may safely ignore the forces of revolution and terror that have repeatedly plunged other nations into a state of war. The red movement has been called a straw menace. The opinion is commonly held that communism, anarchy and socialism can never spread in the United States to the extent that these agencies of bolshevism would endanger the peace and security of the nation, or of any section of it.

The prevalence of lawlessness in our own country, and the increasing frequency of assassinations in other countries where bolshevism has laid its unclean hand, are unmistakably symptoms, however, which warn us that something is amiss.

Breaking Down Resistance

Few persons have taken the pains to examine the facts before forming an opinion on the subject. Unfortunately the facts are less reassuring than the propaganda of the red movement which paints the picture in pleasing colors.

There are in the United States a bare handful of men who, having examined into the facts, possess actual knowledge of the red movement in its larger aspects, although many have had experience with it in one or another of the many subsidiary phases into which it divides. Few persons in this country have had the opportunity to observe the strategy and mechanism of the red movement as a world movement operating widely outside the United States. It is plainly evident that accurate knowledge of any secret movement, and especially one like this which is built upon deception, fraud and secret intrigue, must be beyond the reach of most persons.

In those countries where bolshevism today imperils the freedom, peace and security of independent nations, the same apathy existed before the menace became real as now prevails among the people of the United States. Throughout the history of world revolutionary movements, of which the red movement is only one, the leaders of bolshevism have skilfully and persistently engendered a false sense of security among the peoples of each country where they have struck. Resistance to their plotting and intrigue is measurably lessened where they are successful in creating the belief that red propaganda is nothing to be feared. That attitude has been characteristic of public opinion in most of the countries where the reds have made inroads.

Part of the Propaganda

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Surface Indications Misleading

The methods by which the red movement is building its organization in America are little understood. That part of the communist propaganda which is paraded in public is merely the cover of the red movement. It is purposely designed to deceive the public as to the actual situation. Much of the discussion of communism today both by writers and by public speakers is found upon a study of the surface manifestations of red propaganda. The conclusions reached from a superficial examination of red literature and its sources will almost inevitably prove to be erroneous because most of the openly disseminated propaganda is calculated to create the illusion that communist activity is confined to a few known communist groups. This is not so. The real mechanism of the red movement is never seen by the casual observer, nor can it be easily perceived at any time, since communism is merely one of the visible phases of a larger movement that is invisible and secret.

The whole structure of the communist movement rests upon the foundation of its industrial organizations. Take away the skeleton or "apparatus" that extends throughout

the labor movement of this and other countries and the whole structure of organized communism collapses. Standing alone, the forces of communism are insignificant in numbers. The strength of the red movement is not in numbers, but in the use it is able to make of other organizations and movements stronger than itself. Herein lies the menace of communism.

The labor movement in nearly all countries has attracted to its ranks the disgruntled and revolutionary elements of society. Organized labor unfortunately has been the channel through which the revolutionary forces in the United States have concentrated their main effort. Boring within is nothing new. As early as the 'sixties and 'seventies the agents of the international communist organization of that day, calling itself the First International, came to the United States for the express purpose of securing a foothold in the labor organizations.

Leaders Are American Born

A strange intermingling of anarchist and socialist societies was to be seen in the industrial centers of the United States. Following the invasion by the secret agents of the "Red" and "Black" Internationals, radical political parties developed parallel to the violent and insurrectionary movement, and the other a left wing. In the center, that is an element of the red mechanism which is present at all times, though always concealed under cover of an invisible secret organization, were the master minds in the conspiracy.

Marked differences may be discerned between the communist movement of today and that of 50 years ago. It is due to these differences that the revolutionary effort of today is rendered more far-reaching in its effects than ever in the past. The reasons for this are best explained by recalling some of the contrasts between the revolutionary activities of that day and the present time.

Foreign-born, foreign-speaking leaders in the secret and political revolutionary organizations of Europe emigrated to the United States in ever-increasing numbers during the decade that followed the Civil war. They created here numerous local and regional anarchist, communist and socialist organizations which were sometimes stronger in numbers than the corresponding groups of today. The propaganda carried on was little different than that which now is operating under the control of the Third International in Moscow.

The outstanding difference between the early movement and the present movement was in the character of the leadership. The foreign-speaking agitator seeking a following among native born American workers met a cool reception. He was not of their kind. He brought an alien philosophy and lived according to a mode of life unknown to the generation of Americans to whom he directed his appeal. They did not respond either in large numbers or in spirit that would enable the revolutionists to make headway.

The leaders in the early movement realized their own inability to achieve a commanding influence among any large proportion of the American public. Therefore they set for themselves the task of training a generation of leaders born in this country who would take the places of their alien "comrades" in the front of the movement. Two generations of leaders have now been trained, and today the commanding positions in the socialist and communist groups, and exert a correspondingly wider influence because of the changed character of these other movements.

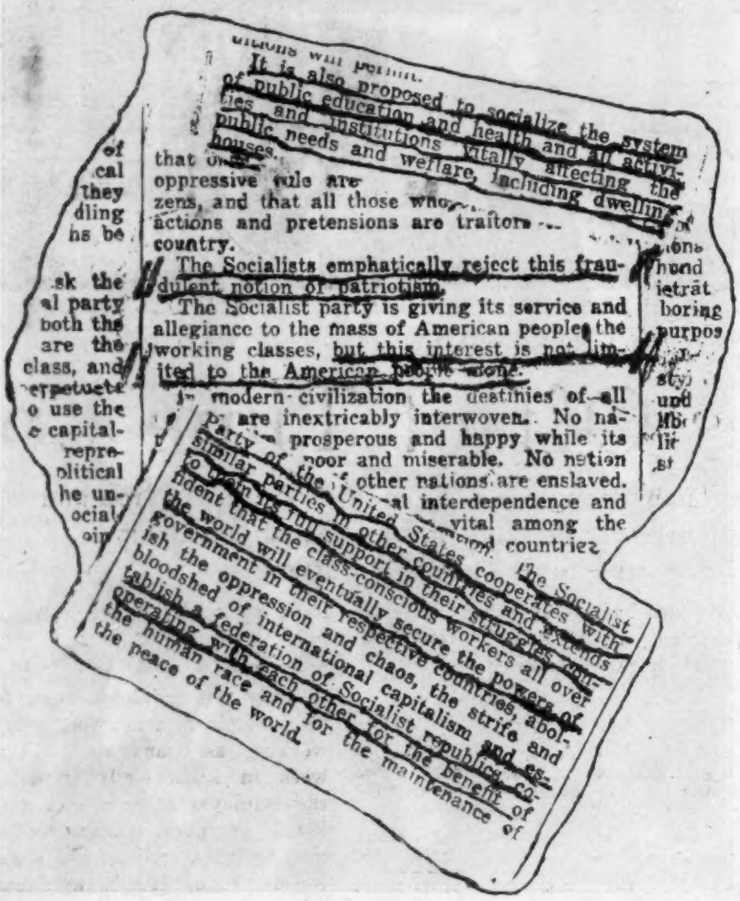
The broad strategy of the early revolutionary movement, hence, is to be found in the contrast between the leadership then and now. The movement in the United States passed from the hands of its foreign-speaking leaders early in the twentieth century. The inner circle retired from active leadership in favor of the native born radicals. This change, however, did not mean any severing of the relations of the revolutionary parties in this country with the parent institutions abroad, either the "Red" International or the "Black" International.

The hidden organizations which inspired the radicalism of the 'sixties, 'seventies and 'eighties, have continued in existence to the present day. The transition period through which the revolutionary movement has passed has brought into the foreground various other groups which are nothing more than the army of the secret

A quintet of professional bolshevik safeblowers, who were arrested at Riga, Russia, after they had obtained passports to foreign countries including the United States

organizations. The forces of anarchy and syndicalism are working today for common objectives under cover of anarcho-communism, parliamentary socialism and the false philosophy of religious communism.

The Third, or Red International, which arose simultaneously with the soviet dictatorship in Russia, represents the controlling force today in the revolutionary communist movement. The Second International, which is


It is also proposed to socialize the system of public education and health and all activities and institutions vitally affecting the public needs and welfare, including dwellings, houses ...
oppressive rule are ...
actions and pretensions are traitors ... country.
The Socialists emphatically reject this fraudulent notion of patriotism.
The Socialist party is giving its service and allegiance to the mass of American people, the working classes, but this interest is not limited to the American people alone.
In modern civilization the destinies of all ... are inextricably interwoven. No nation ... prosperous and happy while its ... poor and miserable. No nation ... of other nations are enslaved. ... interdependence and ... vital among the ... countries.
The Socialist ... similar parties in other countries and extends to them its full support in their struggles against ... the world will eventually secure the powers of government in their respective countries, abolish the oppression and chaos, the strife and bloodshed of international capitalism and establish a federation of Socialist republics co-operating with each other for the benefit of the human race and for the maintenance of the peace of the world.

Extracts from the Socialist Party's platform for 1920, *as it was printed in the Appeal to Reason*

dominated by its left wing, the left wing in turn being controlled by the reds, operates the political machinery of the socialist groups. Socialism and communism are one and the same thing, differing only in the tactics which each employs to achieve its ends.

The strategy of the world movement of today differs in several respects from that of 50 years ago. This holds true also of the movement within the United States. In contrast to the main effort in the training of leaders during former decades, the movement now is in the stage of planting its nuclei within the industrial establishments of the country.

The framework of the communist movement consists of the school of trained organizers who have come up through the ranks of the older movement. They are the picked men from the early communist, socialist and I. W. W. organizations who stepped into the places once filled by the foreign-speaking leaders. There still exist foreign language branches of the revolutionary movement under command of foreign-speaking leaders, but the main effort of both the communist and socialist groups today is in the English-speaking sections of the rank and file movement.

The communist organization in America sprang from the left wing of the socialist party, while the socialist party itself grew out of the anarcho-communist organizations which flourished in the United States during the 'eighties and 'nineties. The two movements have gone parallel and to some extent are in conflict. The issues which are exploited by the socialists and communists in the labor movement are kept alive by means of this conflict, which, in part at least is deliberately created as a means of inflaming the minds of the followers in either wing of the movement.

That socialism and communism are one and the same thing can well be appreciated by the fact the two groups are in entire harmony on nearly all major issues in the revolutionary movement. Both are advocating industrial unionism and both are secretly working within the labor unions to create the structure of industrial unions. It is their ultimate purpose to capture control of the existing trade unions, and to overthrow the present system of unionism. The socialist calls the scheme "industrial democracy" and the communist names it "amalgamation." It means the same by either name.

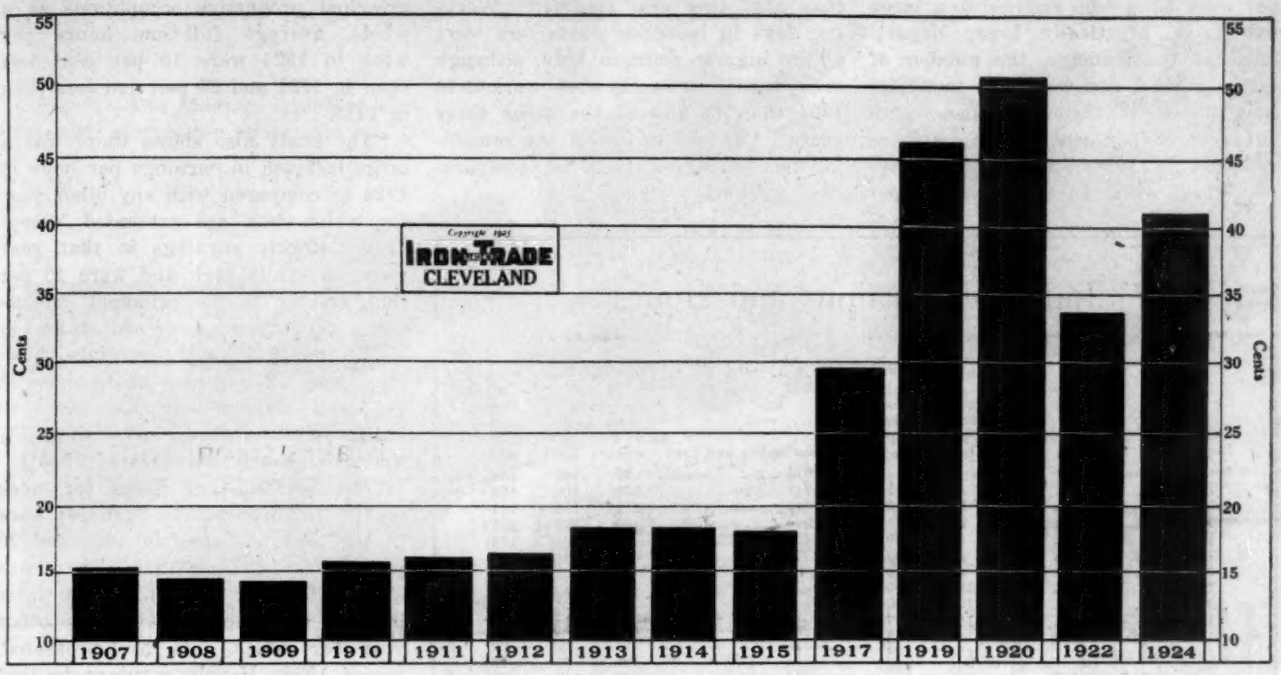
Makes Iron and Cement in Same Furnace

Processes for making pig iron and cement in the blast furnace at the same time form the bases of patents recently issued to Edwin C. Eckel, Washington. It is claimed that with the new process alumina cements can be supplied in most of the cement markets of the world at a cost lower than Portland cement.

In the French process of making alumina cement now generally used the presence of globules of iron from the bauxite requires magnetic separation before the cement is ground, and there are other difficulties of manufacture. In the new process a larger furnace is used, a lower grade of raw materials for the cement, and deliberately there is then added iron ore to the mix in order to carry up the iron content above the amount carried by the most ferruginous bauxite.

This iron addition has three advantages: It aids in fluxing, it gives a larger mass of iron so that freezing as in the case of the former process is eliminated, and it adds greatly to the saleable tonnage per ton of fuel, thus reducing the cost of the cement. The separation of iron and cement is accomplished by reason of the fact that the iron is heavier than the cement, and they are tapped off at different levels. The other patents relate to the use of certain low grades of iron ore, supplemental to the process outlined for making cement.

"Design of Specimens for Short-Time Tests," is the title of technologic paper No. 275 of the bureau of standards, Washington. This paper, which was prepared by L. B. Tuckerman, engineering physicist, and C. S. Aitchison, assistant mechanical engineer, of the bureau, states that it is possible to design short-time fatigue specimens with maximum stresses uniform over a large portion of the material.



Average earnings of common laborers in iron and steel industry, for all departments and all districts

High Wages Offset Time Loss

Increases Since 1922 More Than Enough to Compensate Workers in Iron and Steel Industry for Abolishment of 12-Hour Day, Bureau of Labor Statistics Reports—Gives Details of Survey

HOURLY earnings of workers in the iron and steel industry show a general average increase of 28 per cent over 1922, according to data compiled by the bureau of labor statistics. While the 12-hour day was abolished, it is stated the increase in hourly earnings in the principal departments was "more than enough" to compensate employes for the reduction in hours. The general average increase in hourly earnings is 126 per cent over 1914. In comparison with 1913 the earnings show a reduction of 13 per cent. Weekly earnings show an advance compared with all other years except 1919 and 1920.

The survey was made by the bureau in 1924, and was the first comprehensive study of working time and wages undertaken since the 12-hour day was abolished.

The following table shows the per cent of increase or decrease in hourly earnings in the principal departments in 1924 compared with 1914, 1920 and 1922:

	1914	1920	1922
Blast furnaces	+153	—10	+33
Bessemer converters	+153	— 6	+33
Open-hearth furnaces	+169	— 5	+33
Puddling mills	+134	—16	+51
Blooming mills	+118	— 5	+31
Plate mills	+113	—20	+16
Bar mills	+115	—18	+20
Sheet mills	+ 68	—26	+15
Tin plate mills	+110	—15	+22

Average hourly earnings in each department, all occupations combined, in 1924 were as follows:

District	Blast furnaces	Bessemer converters	Open-hearth furnaces	Puddling mills	Blooming mills
Eastern	$0.496	.....	$0.533	$0.652	$0.594
Pittsburgh	0.561	$0.636	0.642	0.897	0.629
Great Lakes and Middle West	0.576	0.610	0.671	0.717	0.628
Southern	0.380	.....	0.572	0.506	0.506
Total	$0.520	$0.624	$0.635	$0.721	$0.613

District	Plate mills	Standard rail mills	Bar mills	Sheet mills	Tinplate mills
Eastern	$0.433	.....	$0.583	.....	.....
Pittsburgh	0.609	.....	0.626	$0.829	$0.843
Great Lakes and Middle West	0.620	.....	0.613	0.784	0.697
Southern	.....	.....	0.428	.....	.....
Total	$0.562	$0.573	$0.585	$0.809	$0.795

On the reduction of working time the bureau's report states:

"In 1922, 69 per cent of all blast furnace employes reported worked 72 or more hours per week. Sixty-seven per cent in the bessemer converting department, 64 per cent in open-hearth furnaces, 57 per cent in blooming mills, 39 per cent in plate mills, and 16 per cent in bar mills also worked 72 hours or longer. In 1924, however, working time had been so far reduced that only 9 per cent of the employes in blast furnaces, 7 per cent in open-hearth furnaces, 3 per cent in blooming mills, 4 per cent in plate mills, and 3 per cent in bar mills were on a basis of 72 hours or more.

"Only two employes were found in the bessemer converting department working as many as 72 hours per week in 1924, while 8 per cent of the employes in rail mills worked 72 hours or more. Employes in sheet and tin plate mills have been on an 8-hour basis for many years, and hours per week in these departments are subject to only slight changes from year to year. The 12-hour turn had previously been practically eliminated from the puddling mill department also and scarcely any change in working time was noticed from 1922 to 1924.

"While full-time hours per week were decreased so materially, wage rates were adjusted so that employes received but slightly less pay for the shorter shifts than they had formerly received for working the longer hours. Later, substantial wage increases were effected in practically every department, so that the increase in hourly earnings has even more than offset the reduction in hours per week and full-time earnings per week still show an increase in all departments except plate mills.

"While customary full-time hours

per week have been reduced to a large extent in practically every department of the industry, the number of turns worked per week has increased in a number of them. In open-hearth furnaces 52 per cent of the employes reported in 1924 worked seven days per week, while an additional 32 per cent alternated or rotated regularly from six to seven days. This is the largest amount of 7-day work reported for any year shown. In 1920, the previous high year, 33 per cent of the employes worked seven days per week and 40 per cent alternated between six and seven days.

"Seven-day work in blast furnaces also increased. In 1924, 80 per cent of the employes worked seven days either all or part of the time, while in 1914 only 58 per cent worked that many days per week. Blooming mills also show more 7-day work in 1924 than any other year reported. Working days in bessemer converters were at the highest point in 1920, although more turns per week were worked in 1924 than in any of the other three years. Changes in five of the remaining six departments were comparatively slight.

"The year 1924 marks the lowest point of full-time hours per week in the blast furnaces in the period 1907 to 1924. Up until the summer of 1923 this department, while showing a gradual decrease from former years in the hours of labor of employes as a whole, was still largely on a 12-hour basis and some employes also worked seven days per week. A general reduction in the working time of employes, however, took place in the latter part of 1923, and a large number of the plants adopted the 8-hour day for all employes. Considering the principal productive occupations as a whole, average full-time hours per week in 1924 were 19 per cent less than in 1922 and 25 per cent less than in 1913.

"The study also shows there was a large increase in earnings per hour in 1924 as compared with any other year for which data are presented, except 1920. Hourly earnings in that year were unusually high and were 10 per cent greater in the principal productive occupations combined than in 1924. The 1924 hourly earnings, however, were 33 per cent above those in 1922 and 154 per cent above those in 1913; in other words, more than 2½ times the hourly earnings of 1913.

"Average full-time hours per week in 1924 at open-hearth furnaces were 21 per cent less than in 1922 and 26 per cent less than in 1923. There was a large increase in earnings per hour in 1924 as compared with any other year for which data are presented, except 1920. Hourly earnings in that year were unusually high and were 5 per cent greater in the principal productive occupations combined than in 1924. The 1924 hourly earnings, however, were 33 per cent above those in 1922 and 169 per cent above those in 1913 in other words, slightly more than 2 2/3 tines the hourly earnings of 1913."

Additional details giving index numbers of average full-time hours per week, earnings per hour and full-time earnings per week in the principal productive occupations by department and year are contained in an accompanying table.

Index of Earnings and Hours

(1913 = 100, except for puddling mills, for which 1914 = 100)

Department and year	Index numbers of— Full-time hours per week	Earnings per hour	Full-time earnings per week
Blast furnaces:			
1907	103	88	91
1908	101	85	86
1909	102	83	85
1910	102	87	90
1911	102	89	90
1912	99	92	90
1913	100	100	100
1914	97	101	97
1915	97	101	97
1917	98	156	152
1919	100	250	248
1920	93	283	258
1922	93	191	176
1924	75	254	190
Bessemer converters:			
1907	102	85	86
1908	98	79	79
1909	102	82	84
1910	103	86	88
1911	101	82	84
1912	101	90	90
1913	100	100	100
1914	98	90	90
1915	98	94	94
1917	98	151	149
1919	95	208	218
1920	99	241	254
1922	98	170	176
1924	75	227	182
Puddling mills:			
1914	100	100	100
1915	98	96	94
1919	98	269	260
1920	103	279	295
1922	96	155	154
1924	96	234	236
Blooming mills:			
1910	102	81	83
1911	101	82	84
1912	101	87	88
1913	100	100	100
1914	97	102	98
1915	97	104	100
1917	100	133	131
1919	96	220	217
1920	91	233	220
1922	95	169	166
1924	78	221	177
Plate mills:			
1910	99	89	88
1911	98	87	85
1912	100	92	91
1913	100	100	100
1914	99	101	100
1915	99	107	106
1917	100	156	156
1919	102	233	237
1920	99	267	265
1922	95	186	175
1924	82	215	172
Bar mills:			
1907	106	94	99
1908	106	84	89
1909	107	86	91
1910	104	95	99
1911	106	90	93
1912	103	90	93
1913	100	100	100
1914	100	96	97
1915	100	98	98
1919	103	214	221
1920	99	252	253
1922	98	173	171
1924	89	207	189
Open-hearth furnaces:			
1910	99	89	86
1911	96	89	85
1912	98	92	91
1913	100	100	100
1914	97	100	97
1915	92	104	96
1917	99	152	150
1919	98	239	234
1920	89	282	253
1922	93	202	188
1924	74	269	199
Sheet mills:			
1910	102	84	85
1911	102	91	92
1912	101	93	94
1913	100	100	100
1914	100	101	101
1915	101	92	92
1917	104	178	183
1919	99	193	195
1920	100	229	240
1922	101	147	154
1924	100	170	179
Tin-plate mills:			
1910	98	88	87
1911	99	98	97
1912	99	99	98
1913	100	100	100
1914	100	102	102
1915	100	102	101
1919	97	220	217
1920	95	252	253
1922	94	175	171
1924	94	214	211

Pigment Sales Larger

Sale of lead and zinc pigments and salts increased in 1924 over 1923. Sublimed or basic lead showed the largest gain, 23 per cent in quantity and total value. While lead sales gained 15 per cent in spite of 10 per cent advance in price. Lithopone sales increased 11 per cent and zinc oxide 5 per cent. Production for the two years follows:

	1923	1924
*Sublimed lead:		
White	11,949	14,573
Blue	800	1,088
Red lead	38,037	36,813
Orange mineral	646	331
Litharge	75,107	74,724
White lead:		
Dry	37,786	42,622
In oil	125,087	144,872
Zinc oxide	126,987	131,470
Leaded zinc oxide	23,504	26,729
Lithopone	98,199	109,460
Zinc chloride	42,431	51,054
Zinc sulphate	5,375	4,674

*Includes basic sulphate lead.

Speedway Mfg. Co., Saugatuck, Mich., has filed a notice of dissolution.

Fig. 1—The loading machine, with conveyor system for filling cars

MINE LOADERS FIND WIDE RANGE OF USE

By Robert P. Greenleaf

UNDERGROUND loading machines have been in use a number of years, and while designed primarily for mine and tunnel work, they have other fields of usefulness. Many early attempts to perfect the machines failed because inventors underestimated the difficulties of the problems and overestimated the demand. It was soon found that the chief difficulty to be overcome is the limitation of space.

Mine operators were apathatic toward the matter. While many admitted that mechanical loading would be of value, they were unwilling to go to any great trouble to obtain such benefit.

Labor was cheap and known methods of operation enabled them to fill their contracts; so why bother? As a result experiments were relegated to out of the way corners so not to interfere with regular mining.

Development was much retarded until the recent change in economic conditions brought the whole question to a focus. Instead of the easy times of a few years ago, there is an era of keen competition, and attention is concentrated on all possible means of reducing costs. Chief among these possibilities is mechanical loading which has emerged from obscurity and is being considered in proper relation to other operating matters.

It is recognized that to gain the benefits of machine loading, it is necessary to remove the material nearly as fast as it can be picked up. On this account such matters as haulage, ventilation, methods of blasting, mine layout and numerous other factors affecting the flow of material from the working face are being studied. Under this stimulus the loader is coming into use. It has emerged from the experimental stage and attracting capital for its development.

Foreseeing this situation Frank Billings, of the Tod-Stambaugh Co., Lake Superior iron ore producers, and the writer began in 1909 a series of experiments in mechanical loading. These experiments, while undertaken with an open mind, were necessarily based upon certain assumptions as to the best method. It was believed a large hoe or scraper offered the best chance of success, because not having to lift the material, nor push into the pile against a heavy resistance as would a shovel, the work could be done with a minimum

The author is sales engineer, McMyler-Interstate Co., Cleveland.

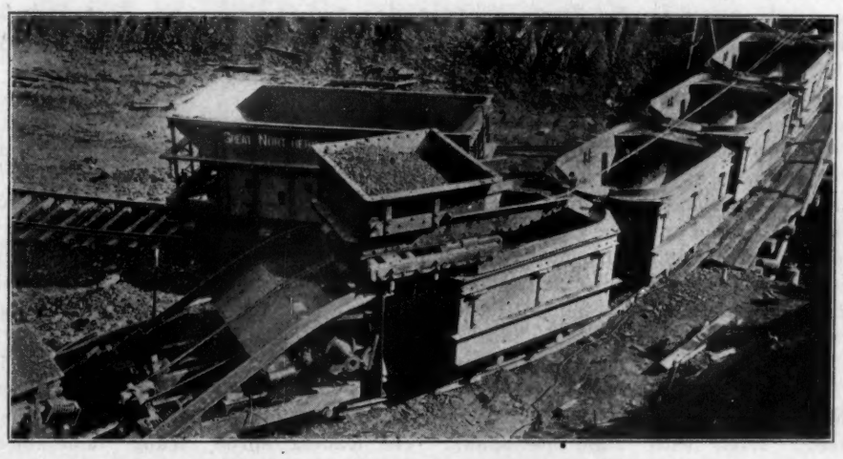
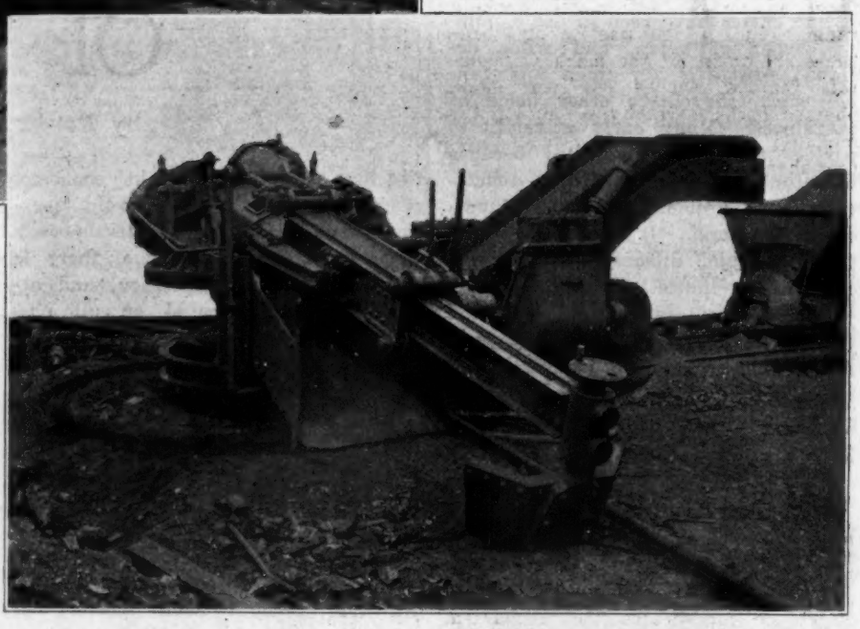


Fig. 2—Track frames are fixed to ordinary mine cars

The frames facilitate passage of the loaded skip to the cars

application of some mechanical power.

Accordingly the first machines embodied this idea and consisted essentially of a heavy hoe or blade at the end of a long shank of substantial proportions, and a conveyor. As shown in Fig. 3, which is a good example of this type, the hoe was mounted on a turntable placed near the forward end of the conveyor and adapted to move in and out, up and down, and sidewise in imitation of the movements of a man hoeing. The conveyor received the material, carried it rearward and upward, and deposited it in a car or other receptacle at the rear.



Figs. 3 and 4—Earlier types of loading machines that used the scraper principle in raking ore away from the face

This machine was operated by compressed air and was used over a long period in the Morton and North Eddy iron mines, near Hibbing, Minn. No serious trouble developed with the hoe mechanism, and in coal mining where the machine shown in Fig. 4 was operated for nearly two years, there was little trouble with the conveyor. In the soft iron ore of the Mesabi range, however, it was different. The belt conveyor proved to be too long to handle around the sharp curves which mining conditions were found to demand. When metal conveyors whose profile could be curved to give the required elevation in a shorter length were resorted to, much trouble developed. The ore which was gritty and at times very wet worked into small moving parts, particularly chain links and sprockets. Reliable operation of the conveyor could not be depended on.

Another difficulty arose out of the necessity for frequent moving up as the loading progressed. Even with the best of care in blasting the ore, the pile thrown down often has a long attenuated "toe," preventing the machine from working at capacity until well into the pile. With some of the later types of apparatus this condition can be dealt with more effectively, but with the early machine, spillage which failed to enter the conveyor at each stroke of the hoe, built up in front of the apron and had to be shoveled away by hand every time the machine was moved forward.

In the belief that the basic idea of using the hoe was sound, experiments along this line continued for several years, and the work paved the way for the introduction of present day scraping or slushing. In slushing, a hoe or box shaped scraper is hauled back and forth by ropes between the pile and the loading point. The principal difference between the slusher and hoe loader lies in the substitution of a rope for the rigid hoe shank. The loading apron and machinery may remain stationary and be of any convenient form, while with the scraper always starting from the back of the pile the necessity for moving up during the loading operation is dispensed with. In many situations this is highly effective.

It might be well to mention some early attempts to promote the efficient operation of the loading machine. At the outset of the experiments it was realized there was little to be gained by having a fast working loader if cars could not be handled rapidly. It was realized also that in many cases rapid handling of cars is not possible. To deal with this situation, portable conveyors were devised to trail out behind the loader and cover several cars. These failed because if the conveyors were made simple mechanically, and in one piece, they could not be handled where sharp curves were frequent. If they were made sufficiently sectionalized to meet this requirement, they became too complicated, and too much set-up time was required. The design of the loader itself having become an absorbing topic, this matter was allowed to recede into the background for a time. It continued to be a difficult point in underground loader operation for a number of years and it was not until recently that the solution was found.

In developing the loader it was decided to take a different track, drawing a lesson from the familiar steam shovel whose characteristics were already understood and appreciated.

Accordingly experiments began with shovel types adopted to transfer ore from pile to car direct, no conveyor being required. This idea promised much. It was evident that this class of machine could be made short and compact, thus adapting it well to underground mining. Moreover the digging element, working from the machine outward toward the pile instead of inward like the hoe, would keep its own path clean, reducing loss of time when moving up. It was thought also that if instead of swinging around like the ordinary shovel, the dipper could be made to pass back and forth over the body of the machine operation would be more rapid.

Fig. 1 shows a successful loader of this type. Its rugged simplicity well adapts it for practical mine operation. It consists essentially of a truck carrying a swinging platform pivoted at the extreme rear so as to point always at the same discharge point, from any angle within its working range. This range was hardly three times the width of the machine, hence this feature worked out very well, obviating the necessity of lining the machine up with the car every time the shovel discharged.

Bell-Crank Motion Adopted

Upon the platform was mounted a ram or carriage moveable in and out along its axis to give the shovel a horizontal crowding action. The vertical sweep whereby the shovel was carried from the ground in front of the machine upward and rearward to a point over the car placed at the back of the machine was the subject of considerable experiment. Attempts were made to give it a path which while adapted to low headroom would carry the discharge well out over the middle of the car. These efforts so complicated the mechanism that it became unreliable. But by a little compromising in the matter of headroom and a rearward reach, the bell-crank motion was made possible and proved practical. In this motion the power is applied to the fulcrum of the crank which is supported at that point in a horizontally reciprocating carriage or trolley. The motion is directed by a radius arm attached to the short end of the bell-crank, and turning about a fixed point in the ram, giving to the shovel a motion which is slow and powerful near the ground but which gathers speed as the bucket rises causing it to discharge by a sharp impact on the spring buffers.

When working this machine tends to tip forward and must be secured to the track by clamps at the rear, which counteracts the crowding thrust. The tipping tendency is minimized by a pair of quick adjustable jack arms which give added stability and reduce the strain on the track transmitted through the clamps.

This shovel is operated by compressed air and is reliable. In the loading of materials in which rough handling is of no consequence excellent output can be obtained by a good operator.

Having achieved a machine suited to practical mining conditions, attention was again turned to the matter of car supply. Conveyor devices having been found impractical where long lines of single track in narrow passageways with sharp curves are the rule, the scheme of using the cars themselves as supports for an apparatus was hit upon. The problem then became one of designing a skip or auxiliary car which could be filled by the loader, transported on the cars and discharged at will into them. Several devices were tried before the arrangement as shown in Figs. 1 and 2 was worked out. To each of several ordinary mine cars a track frame was fixed as a permanent addition. These track frames extended over the ends of the car body far enough to nearly close the gap between the cars. They had curved ends to facilitate the passage of the skip when the train might be standing on curves, and tapered points to allow for a considerable amount of roughness in the roadbed. There is no connection between cars but the usual coupling, and their normal operation is not interfered with.

The skip which distributes the material has sufficient number of horizontal rollers so that it cannot drop into the gap between cars, and also enough vertical guide rollers to keep it from running off sideways. When being loaded, the skip stands on the inclined back of a platform car coupled to the rear of the loader. This platform car carries machinery for operating the skip. At the far end of the train is a sheave for the skip haulage rope. A tail rope also is attached to the skip for returning it. The dumping is brought about by moveable stops placed on the car that is being loaded.

In operation, the loaded skip which holds half a mine-car load, or 26 cubic feet, passes from the incline car over the tops of the mine cars until it strikes the stop. Here the lower or truck part of the skip stops, but due to its peculiar construction, the body moves forward until its rear edge has cleared the forward edge of the bottom plate which forms a part of the truck. The body being now bottomless, its contents fall into the car below. The tail rope then is used to close the empty skip and returns it to the loading point. The discharge requires no extra headroom, and this device may be used anywhere the loader can be taken. When loaded, trains may be changed with practically no loss of time, the operation being merely one of handling the coupling at the incline car and the haulage

(*Concluded on Page* 105)

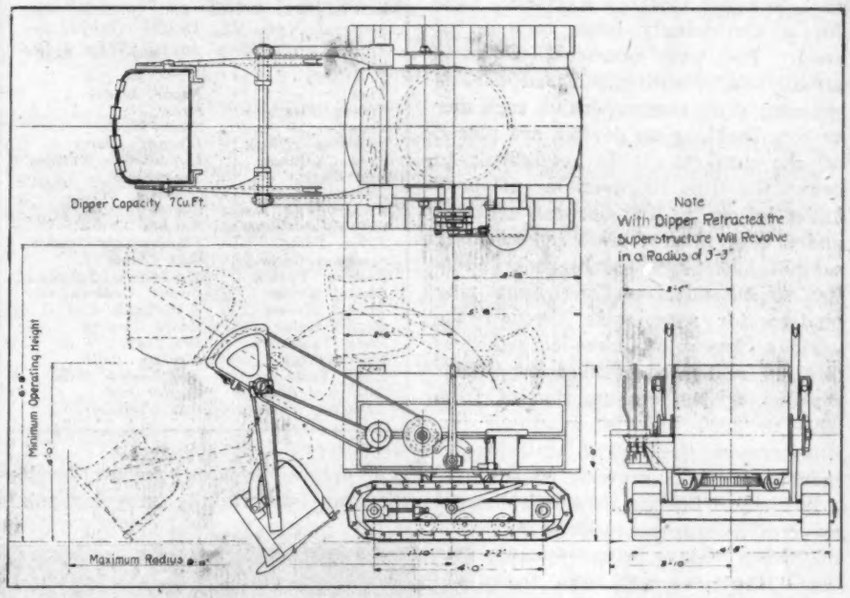

Dipper Capacity 7 Cu.Ft.
Note
With Dipper Retracted the Superstructure Will Revolve in a Radius of 3'-3"
Minimum Operating Height
Maximum Radius

Fig. 5—Design of the new loading machine as finally developed—Compactness, power and adaptability for working within very close confines are its chief features

Large Uses of Steel In Small Ways

MORE loose-leaf notebooks are produced each year in the United States than pleasure automobiles according to the estimate of a leading notebook manufacturer. This tremendous production, running close to 4,000,000, calls for a surprisingly large tonnage of steel. The term notebook, which is already an exceedingly broad one, is growing more comprehensive each day as new bookkeeping devices are placed on the market. It is as difficult to draw the line between a notebook and a ledger, as it is between a ledger and a tray binder, or loose-leaf filing cabinet. Taking the notebook industry to extend from the light ring binders for school use through the various types of loose-leaf devices to the complicated bookkeeping binder systems, a steel consumption of from 2500 to 3000 tons is accounted for. Furthermore the use of steel in this industry is still growing rapidly.

A visit to the metalworking department of a large notebook manufacturer today brings home with surprising vividness the importance of steel in the filing and preserving of records in the business life of the country. The most popular form of notebook in point of sales is the loose-leaf ring binder. One large eastern manufacturer turns out 1000 of these books a day and the annual production of ring binders alone is estimated at 2,500,000 a year. The patents which controlled the manufacture of ring binders until recently have run out and five or six large manufacturers now produce a standard type in various sizes. This device consists essentially of two back plates made of 0.050-inch round edge steel, to each of which is riveted the half portions of three or more rings known as hooks. These hooks are made of oval steel wire called ring binder wire produced by several wire companies. This wire is fed into automatic presses which at one operation form the curve and shear both ends. This shearing operation is a recent development as formerly the irregular points of the hooks were cut on milling machines. This was expensive and tool manufacturers were urged to develop a punch which would take the place of the milling machines. The modern double-acting hook forming punch is the result. In this the shearing dies move upward against accurately ground stationary dies which produce a clean cut without trace of burr. The two back plates fit into a third plate known as a cover or spring plate. The combined width of the back plates when flat, is greater than the free space in the spring plate, which because of the round edge between the back plates means that they never stay in a flat position. They either spring inward and the hooks are closed, or they spring outward and the hooks stay open. A fourth plate, the front plate, confines the movement of the back plates to form a smooth rest for the loose leaves.

On the better class of notebooks steel caps are used to cover the openings at each end of the plates. For the various plates used in ring binders strip steel is usually bought in the correct width for each size of plate so that the waste is negligible. For the back plates these strips are merely cut off and punched to receive the hooks. For the spring plates the strip is fed into an automatic press where it is formed and cut to length in one operation. The front plate is punched with hook slots and cut to length in one operation and then formed in a second operation on another machine. In the design of some notebooks a thin binding plate is used to hold the fabric and provide a neat and durable back. This is usually riveted to the spring plate, and when it is used it means that the complete notebook has five steel plates running from top to bottom. For the standard size ring binder taking an 8½ x 11-inch sheet, the steel entering its construction weighs approximately 10 ounces, which for 2,500,000 cov-

(*Concluded on Page* 111)

Notebooks

THIS is the forty-second of a series of articles dealing with some of the obscure uses of steel which go far toward absorbing the great American tonnage.

The first article on "corsets" appeared Nov. 22, 1923. Other articles appearing fortnightly since are:

Pins	*Razor Blades*
Cotton Ties	*Pens*
Toys	*Steel Wool*
Spinning Rings	*License Plates*
Card Clothing	*Hypodermic Needles*
Tie Plate	*Shoe Steel*
Tacks	*Crushed Steel*
Knives and Forks	*Skates*
Surgical Instruments	*Needles*
Fence Posts	*Phonograph Needles*
Eyeglass Cases	*Golf Clubs*
Fishing Tackle	*Mechanical Pencils*
Dental Drills	*Burial Caskets*
Pocket Knives	*Telephones*
Rat Guards	*Radio Towers*
Snap Fasteners	*Brushes*
Paper Clips	*Electric Bells*
Steel Vests	*Bookbinder Wire*
Electrical Conduit	*Sucker Rods*
Radiator Furniture	*Watch Hands*

METALWORKING DEPARTMENT OF A NOTEBOOK MANUFACTURER IS EXTENSIVE PRODUCTION UNIT

Editorials

Fabricators Started Late

ON PAGE 65 in this issue IRON TRADE REVIEW reprints liberal abstracts from the report on unit working stresses for building construction submitted by the building code committee of the United States department of commerce. The report is published in hope that steel producers, fabricators, contractors and those who use structural steel in buildings will study it carefully and send their criticisms to the committee for its guidance in revising the report prior to issuing it in final form.

If in scrutinizing the report, steelmakers and fabricators find that structural steel has been dealt with harshly, while concrete and timber have been accorded liberal treatment, they can blame no one but themselves. Until four years ago, these interests cared little of the public's opinion of their products. They were ultra conservative in their use of publicity. As a result, the public heard less and less about steel and more and more about concrete and other materials. The cement and concrete "consciousness" of the building public has become a real factor, and it is reflected in the report of the building code committee.

What would have happened if the steel producing and fabricating companies 20 years ago had inaugurated an educational campaign to acquaint the public with the proper use of steel for buildings? It is likely codes would have been drawn up, adopted and crystallized by repeated use into enduring standards. Had this been done, or if the American Institute of Steel Construction or a similar organization had been formed in 1905, the present building code committee doubtless would include one or more structural steel representatives and the report would deal more adequately with steel than it does.

Iron and Steel Price Level Low

AVERAGE prices for iron and steel products have declined with greater force and to lower depths than have the value of most other important groups of commodities. One of the few exceptions is found in nonferrous metals which now stand only 4 per cent above the 1913 average. IRON TRADE REVIEW'S composite market index of 14 leading iron and steel products is now 41 per cent above the prewar level. The general average of all commodities, as measured by the bureau of labor statistics index is 56 per cent above 1913. These facts are brought out by the diagram published in this issue in the BUSINESS TREND.

Why are iron and steel prices so low, and when will they begin to advance? These are difficult but pertinent questions. The combination of extra ample productive capacities, keen sellers' competition, prompt railroad deliveries, and cautious buyers, has put prices where they are. Profits make a poor showing.

Operations and production have slackened, but meanwhile consumption has been maintained on an impressive scale. Stocks are moderate, if not meager, and as the balance between supply and demand becomes more even, the edge of the buyers' market is correspondingly dulled. From present indications it appears probable that the end of the decline in iron and steel values is near, and that some measures of stiffening may come in the not distant future.

Iron and Scrap More Apart

CHANGES in the relation of iron and steel scrap to its competing raw material, pig iron, come about from time to time. In the past few years one alteration has become well fixed as a result of the greater integration of steelmakers. The time was not so far distant when $1 per ton was regarded as a normal spread between the market price of heavy melting steel and pig iron. At present it is nearer $4 to $5 per ton. In fact, some dealers believe the normal position of heavy melting steel is at about 75 per cent of the pig iron price.

Formerly steel scrap for the open hearth competed with merchant pig iron, both being bought for conversion into steel. The larger use of direct metal in the open hearth, since the proportion of companies producing their own pig iron has increased, has made scrap compete with the cost of the direct metal.

Manifestly the cost of pig iron in the ladle at the blast furnaces is much lower than of cast pig bought in the market. Since the proportion of pig iron and scrap charged into the open hearth is dictated solely by the relative price of the two, it has been necessary for scrap to assume a level relatively lower than formerly, based on the market price of merchant iron.

Since the price of scrap is its value at time

of use and is not an inherent quality, the adjustment has been made without difficulty and in a natural way.

Turn for Pig Iron Near

TENDENCIES in the tide of basic industry are reflected with a rare degree of truthfulness by fluctuations of blast furnace activity. Early in the year blast furnace operations rose above normal and basic output did likewise. In recent months recession has been gnawing at iron and steel and a number of other fundamental lines. The reaction continued in June but at a greatly diminished rate of speed. This is shown by the Blast Furnace Index, pictured in the BUSINESS TREND. The index was 19 per cent below normal at the close of May and about 20 per cent below normal at the close of June. This small recession is one strong indication that the lowest point is near and that the next movement will be upward. Firmer prices, important recent buying, and reduced stocks are facts which support this conclusion.

Does Germany Need Help?

THE state of Germany's industries continues to occupy front page space. It has even been suggested that American manufacturers should curtail production to give German manufacturers a chance to recuperate. It would be about as logical to ask American manufacturers to turn out inferior goods so that Germany could the quicker gain her former position in the world markets. Germany learned many things during the war, not the least of which was the importance of accurate machine work. Today German machine tools, far superior to her pre-war product, are reaching American users at prices which cannot be met by American tool makers, and this competition has just started.

In many lines Germany is America's strongest potential competitor. She should be treated fairly, as any competitor, but by no means paternally. Rather should she stimulate American manufacturers and engineers to greater effort. Her enterprise is a challenge.

What Our Readers Are Thinking

Will Unite Manufacturers

IF THE employers in Illinois are aroused to a sense of their responsibilities and take a more active interest in politics and legislation, recent passage of the anti-injunction bill will not be an unmixed evil.

The labor lobby must take the responsibility for the defeat of the state police bill which was needed not for the safety of manufacturers, but for women and children in the homes and on the farms in the remote country districts in a day of motorcar highwaymen.

The Illinois Manufacturers association will continue its fight against anti-injunction legislation as an unconstitutional measure opposed to public safety and interest. It will continue its effort in behalf of a state police bill which soon or late is bound to come in response to an overwhelming public sentiment.—CHARLES PIEZ, *president Illinois Manufacturers association.*

Proposes Tube Size Standards

To the Editor:

THE extensive use of thin wall copper tube instead of iron pipe size threaded conduits warrants immediate standardization of tube sizes.

The tube sizes listed below are suggested as standards to be listed and established for standard practice.

This table of sizes is submitted for criticisms and suggestions. Is it considered advisable to adhere to wire gage wall thicknesses?

The several wire gage and sheet metal gages used in common practice are continually confusing and the use of a suitable wall thickness regardless of wire gage standards is recommended.

Tubing may be designated as below, indicating the tube O. D. by a number indicating the O. D. size in sixteenths of an inch and followed by the wall thickness in thousands of an inch, so that a number 8045 tube is ½-inch O. D., 0.045-inch wall and a number 20072 tube is a 1¼-inch O. D., 0.072-inch wall.

It is desirable to receive criticisms and suggestions prior to our listing of standard tube sizes and data pertaining to permissable pressures and flow.

With the preparation of proper data, this subject is to be brought to the attention of all engineering societies, trade associations and technical publications interested in the subject. Suggestions of individuals and societies will be appreciated.

A. L. PARKER,
Parker Appliance Co.

Cleveland, O., June 15.

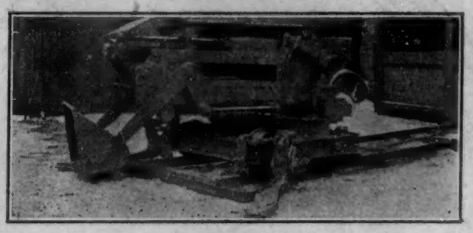
Iron pipe size	Tube size No.	Tube O. D.	STANDARD Tube No.	STANDARD Wall thickness	STANDARD Rated pressure pounds	HEAVY Tube No.	HEAVY Wall thickness	HEAVY Rated pressure, lbs.	EXTRA HEAVY Tube No.	EXTRA HEAVY Wall thickness	EXTRA HEAVY Rated pressures, lbs.
⅜	6	⅜	6,032	0.032	150	6,040	0.040	300	6,050	0.050	450
¼	8	½	8,045	0.045	150	8,058	0.058	300	8,065	0.065	450
⅝	10	⅝	10,050	0.050	150	10,065	0.065	300	10,072	0.072	450
½	12	¾	12,058	0.058	150	12,072	0.072	300	12,080	0.080	450
¾	14	⅞	14,062	0.062	150	14,080	0.080	300	14,090	0.090	450
1	16	1	16,065	0.065	150	16,090	0.090	300	16,100	0.100	450
1¼	20	1¼	20,072	0.072	150	20,100	0.100	300	20,110	0.110	450
1½	24	1½	24,080	0.080	150	24,110	0.110	300	24,115	0.115	450
2	28	1¾	28,085	0.085	150	28,115	0.115	300	28,120	0.120	450
2	32	2	32,090	0.090	150	32,120	0.120	300	31,125	0.125	450
2½	36	2¼	36,095	0.095	150	36,125	0.125	300	36,130	0.130	450
2½	40	2½	40,100	0.100	150	40,130	0.130	300	40,135	0.135	450
3	44	2¾	44,105	0.105	150	44,135	0.135	300	44,140	0.140	450
3	48	3	48,110	0.110	150	48,140	0.140	300	48,145	0.145	450

The Reader's Page

Vol. LXXVII, No. 2 IRON TRADE REVIEW July 9, 1925

More Publicity Needed for Steel

THE desirability of more organized publicity for steel as a building material is believed to be plainly evident from the tentative report of the building code committee of the department of commerce, as recently issued. The report relates to unit stresses for timber, steel and concrete in building construction; it emphasizes the use of timber and concrete, with less favorable reference to steel as a material. Some of those associated with the steel industry who have had an opportunity to read the report, a digest of which appears on page 65, believe that steel has been placed in a defensive position as compared with concrete, inferentially. An inadequate representation is given to steel in the report. A strong educational campaign has been carried on by other interests while until recently steel manufacturers have depended on their product to win by merit only.



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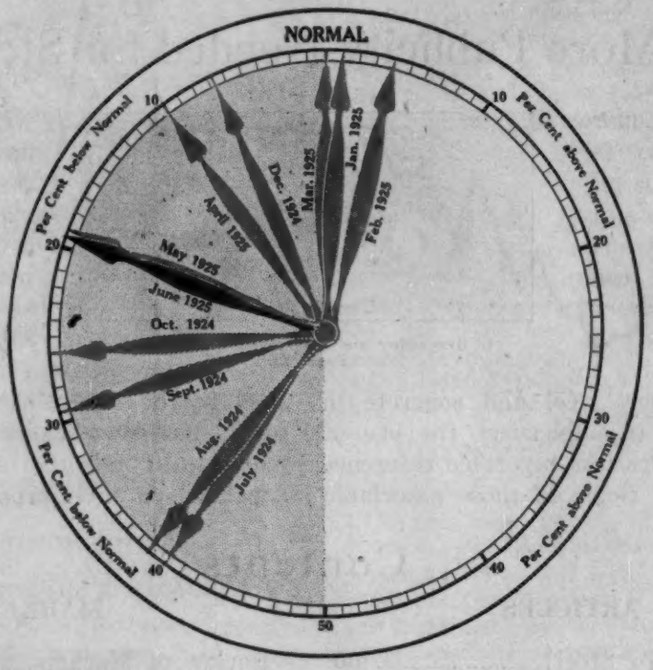
The Business Trend

Blast Furnace

The Dial represents the Blast Furnace Index of Business which is based upon a 40-year record of furnace activity. It is a barometer of general trade.



Business Dial

When 60 per cent of all the country's furnaces are in blast business conditions are normal. The Index is now lower than the normal point on the dial.

Decline of Blast Furnace Activity Small

BY JOHN W. HILL, Financial Editor

THE hand of the Blast Furnace Business Dial receded for the fourth consecutive month in June but the drop was the smallest of any since the decline began. On the last day of June 191 blast furnaces were in blast. That was 47.6 per cent of the 401 furnaces in the country. One month before 196 furnaces were in blast or 48.5 per cent of the total. The June figure was about 20 per cent below the normal point.

THE greatly diminished velocity of the fall in pig iron production, the slightly firmer price front for pig iron, and the recent large purchases of iron, combine to indicate that the bottom is near in the current reaction of the iron and steel industry. It is significant that the recession not only is slowing up sooner than it did one year ago, but also that it has not traveled so far.

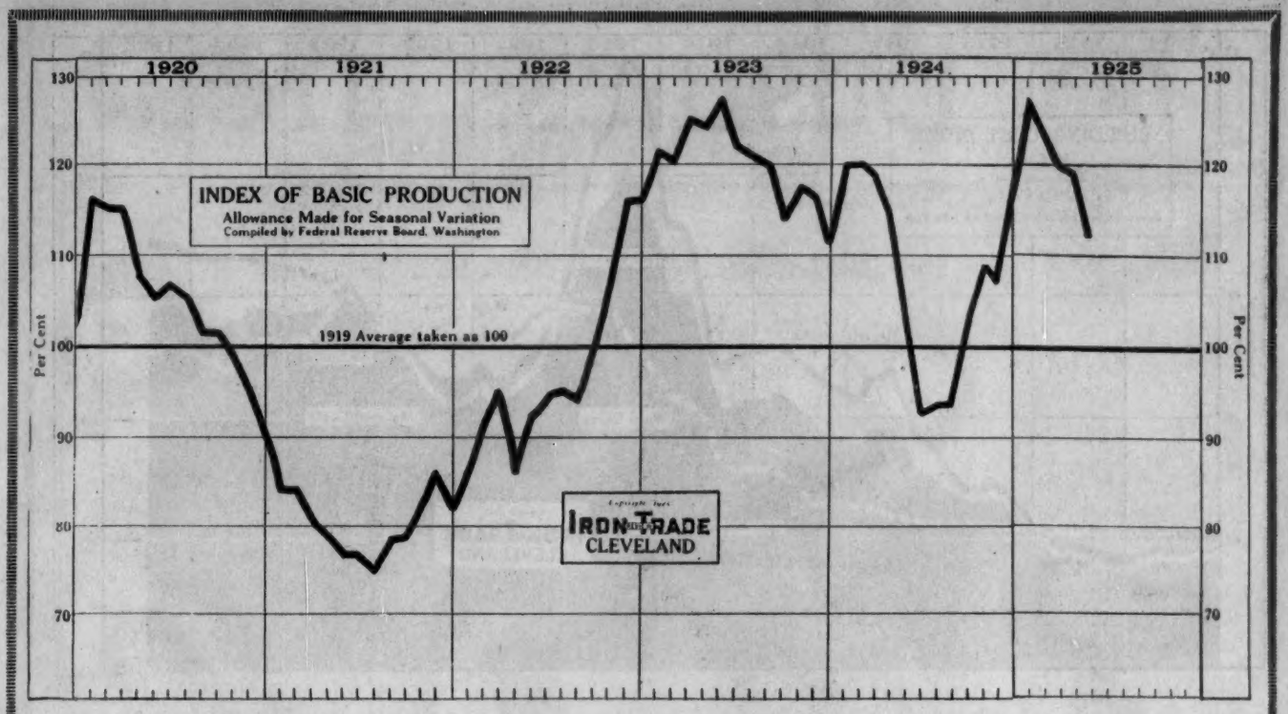
THESE are facts which lend promise to the second half of 1925. Many producing industries have suffered from slackened activities during the quarter just passed. Outputs have declined. Meanwhile distribution and consumption of goods have continued in large volume. The result is that surplus stocks have dwindled to normal proportions.

WITH the fundamental factors of credit, agricultural, employment and general purchasing power all favorable, prospects are for increased industrial activities. This view is held by most leading business observers and forecasters. Brookmire's Economic Service discussing the situation says the "the prospects are for an orderly improvement in manufacturing activity which should carry it to materially higher levels and sustain those levels probably through the year."

WITH prices in the iron and steel industry at the lowest ebb of any time in three years, many buyers are beginning to examine the wisdom of carrying hand-to-mouth buying to extremes. More profitable price levels are probable, although violent upward swings of values are not likely, so long as productive capacities remain so ample and railroad delivery service so efficient.

IN GENERAL, the prospects for commodity prices is for steadier levels, with a degree of firmness for products now out of line with the average level. Among the out-of-line products are iron and steel. Raw material prices, on the whole, are relatively lower than those for finished products.

The Business Trend

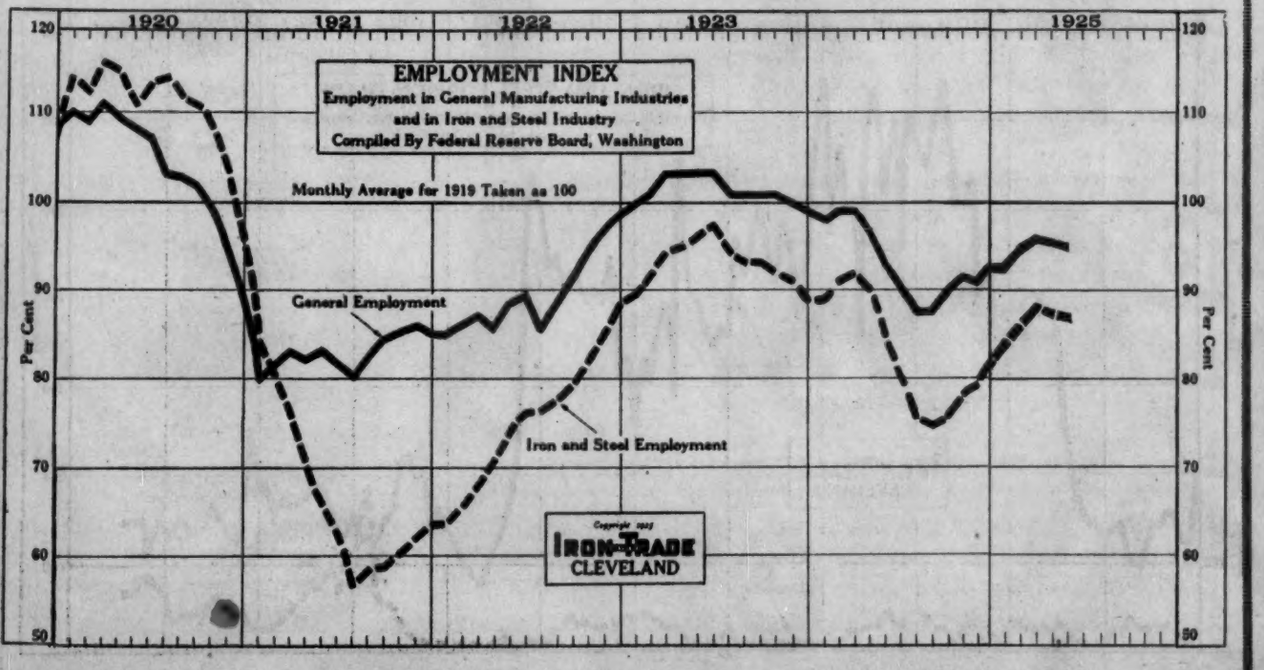


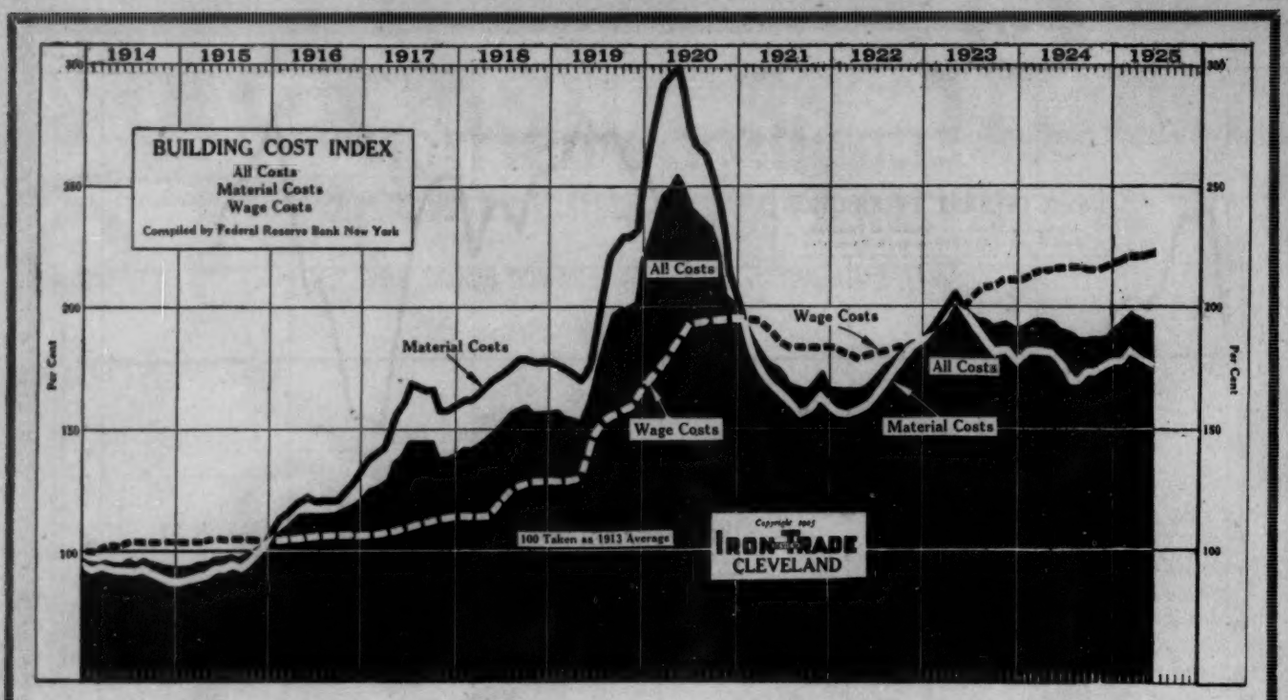
Basic Production

THE production of basic industries declined in May to a level 12 per cent below the high point in January. In the single month of May the decrease was 6 per cent. Considerable decreases in the outputs of iron and steel and woolen industries were reported. Production in basic industries for May stood at an index of 112; this compared with 119 in April and with 110 in May, 1924. The recession this year has been milder than was true in 1924.

Employment Index

THE index of general factory employment as computed by the federal reserve board stood at 95 per cent of the 1919 average in May compared with 96 per cent in April. Employment in iron and steel mills declined a shade. The index in April stood at 88.7 per cent and it compared with 87.5 per cent in May. Decreases occurred in clothing, boot and shoe lines as well as in iron and steel. Gains were reported in the automobile, tobacco products and building materials.



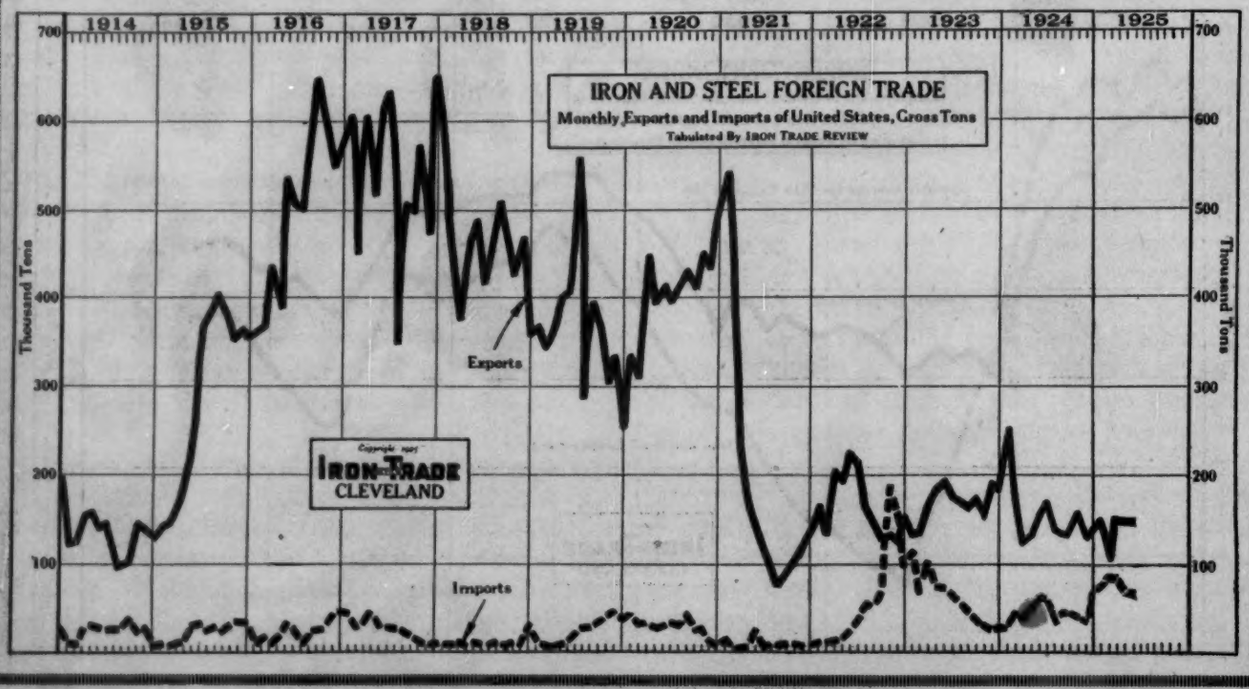


Building Costs

THE decline in the cost of building which was apparent in recent months has been checked. The index of costs compiled by the Federal Reserve Bank of New York stood at 192 at the beginning of July. This was identical with the level of the previous month. Building materials stood at an index of 174 which also was unchanged from the previous month. Wages, however, continued their steady increase and they were at an index of 219 compared with 218 the previous month.

Steel Foreign Trade

EXPORTS of iron and steel products from the United States in May totaled 150,612 tons. This compared with 155,426 tons in April and with 155,422 tons in May, 1924. Imports in May of iron and steel products totaled 68,117 tons. This compared with 71,249 tons in April and it was the smallest volume of imports in any month since last November. In May there was a large reduction in the imports of pig iron. The total was 21,260 tons compared with 33,299 tons in April.



ECONOMIC POSITION
UNITED STATES AND THE WORLD

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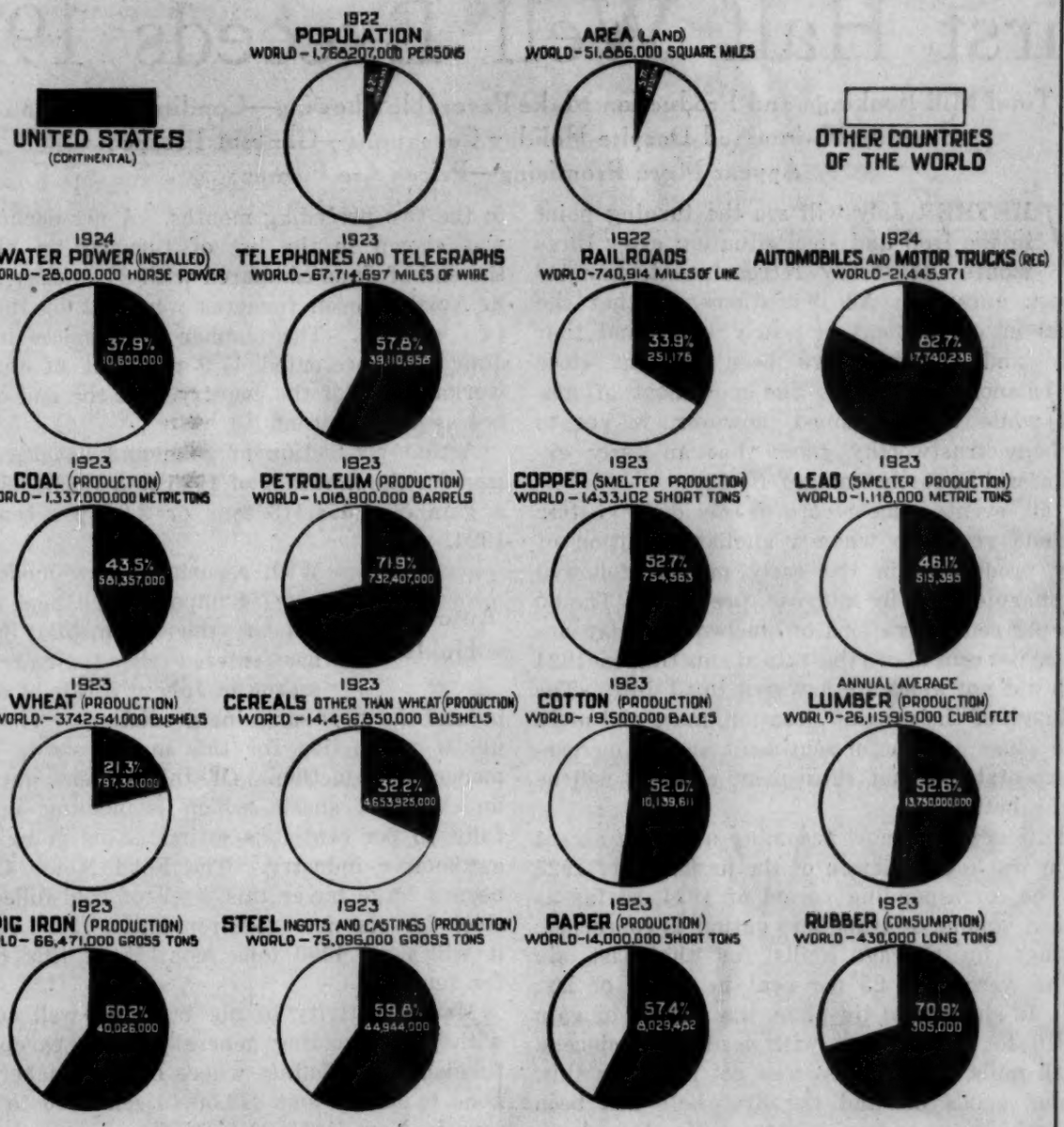

Unless otherwise noted, the following sources refer to both United States and world figures. Population figures are from United States Statistical Abstract. Area figures are those of the Smithsonian Institute. Power from United States Geological Survey. Telephones and Telegraphs from American Telephone and Telegraph Company (only land telegraphs included). Railroads from Bureau of Railway Economics, but from the Archiv für Eisenbahnwesen for countries other than the United States. Automobiles and Motor Trucks from United States Department of Commerce. Coal from United States Geological Survey (includes lignite). Petroleum from United States Geological Survey (barrels of 42 gallons). Copper from American Bureau of Metal Statistics. Lead from United States Geological Survey. Wheat, Cereals (other than wheat) and Cotton from United States Department of Agriculture. Cereals (other than wheat) includes corn, oats, barley, rye and rice. Cotton is in terms of bales of 478 lbs. net. Lumber from United States Forest Service (represents saw timber). Pig Iron and Steel Ingots from the Iron Trade Review. Paper from United States Census Bureau for United States, from the American Paper and Pulp Association for world. Rubber from the United States Department of Commerce.

First Half Well Exceeds 1924

Total Mill Bookings and Production Make Favorable Showing—Conditions Continue Steadily Maintained Despite Holiday Cessations—General Prospects Appear More Promising—Prices Are Firmer

WHETHER July will see the turning point in the iron and steel situation after three months of steady retrenchment, remains an open question. All indications are that the process of curtailment is nearly spent and that supply and demand have been brought close to a balancing position. The movement of material while well sustained, however, is yet to show any trustworthy signs that an early expansion will be forthcoming.

In all events, the record is decidedly better than one year ago when a similar condition of heavy production in the early months followed by a sharp decline by midyear, prevailed. The 60 to 65 per cent operations of steelworks today are fully 20 per cent above the rate at this time in 1924 which did not touch its low spot until July. The steadiness of the present situation, more and more is the cause of hopeful sentiment and of increasing expectations that subsequent changes will be for the better.

Additional facts now becoming available accent the favorable comparison of the first half of 1925 with the corresponding period of 1924, so far as physical volume of trade and output is concerned. Bookings by Chicago mills for the past six months were fully 25 per cent in excess of last year. In sheets and tin plate, the margin of gain was 10 to 15 per cent with leading producers. For all mills, the increase was not less than this. Tubular goods demand the first half has been uniformly large and with some mills, June business was the best in their history.

Few Stacks Go Out

Complete returns of June pig iron production show the changes over May to be even more moderate than the preliminary returns had indicated. The loss of average daily output was but 5.6 per cent as against shrinkages of 11.7 and 20 per cent respectively in the two preceding months. A net decline of 5 was shown in the list of furnaces in blast at the end of June compared with 24 in May and 25 in April. Seven furnaces went out in June and two went in. The number of furnaces in blast June 30 represented 47.9 per cent of the total workable list of the country. At the end of May is was 48.5 per cent.

Actual production of coke and anthracite pig iron for the first half of 1925 was 19,981,830 tons, a gain of 1,558,413 tons or 8.94 per cent over 1924.

Auto Output Holds Up

With reports of new models embracing important changes soon to appear, the automobile industry has entered the fag-end of its season in July at a rate of activity beyond the most sanguine predictions. The schedule of production for this month shows only a moderate reduction. Of the present output of fine finished sheets which is holding up well, fully 75 per cent it is estimated, is going to the automotive industry. The Ford Motor Co. has been a large buyer this week of cold-rolled strip steel for its new requirements. It is reported it will need 4000 tons monthly of this product for fenders.

Market activity in pig iron has well subsided with prices holding generally. The exception is furnished by Buffalo where certain makers have gone to $18.25 and $18.50 to sell 8000 to 10,000 tons in New England territory.

Expects More Buying

That the railroads will prove to be heavier buyers during the last half than during the first six months especially in equipment, is a view more generally held. Their present unimportant purchases of this sort have been modified by the award of 342 coaches by the Pennsylvania. The Cotton Belt with an in-

quiry for 15,000 tons is the second railroad to come into the rail market recently with future requirements, the Norfolk & Western having previously issued its request for tonnage. The Central of Georgia has placed 1000 box cars.

State subsidies to revive the languishing British pig iron conditions are being talked of, now that the manufacturers realize there is small chance for their obtaining the tariff protection for which they had petitioned.

No change is shown this week by IRON TRADE REVIEW composite of fourteen leading iron and steel products which remains $37.45, sustaining the small gain made one week ago.

Prices, Present and Past

Representative Market Figures for This Week, Last Month, Three Months and One Year Ago

	July 8, 1925	June 1925	Apr., 1925	July 1924
PIG IRON				
Bessemer, valley, del., Pittsburgh	$20.76	20.76	22.86	21.66
Basic, valley	18.00	18.15	22.20	19.00
Basic, eastern del., eastern Pa.	21.50	21.50	22.60	20.50
*No. 2 foundry, del. Pittsburgh	20.26	20.14	21.96	20.76
No. 2 foundry, Chicago	20.50	20.25	22.60	19.80
*Southern, No. 2, Birmingham	18.00	19.30	20.00	18.20
*Southern Ohio, No. 2,, Ironton	19.00	18.75	21.00	19.40
**No. 2X, Virginia furnace	23.00	23.00	23.75	24.50
**No. 2X, eastern, del. Phila.	21.26	21.57	23.16	21.76
Malleable, valley	18.50	18.50	20.30	19.00
Malleable, Chicago	20.50	20.25	22.60	19.80
Lake Superior charcoal, Chicago	29.04	29.04	29.04	29.04
Gray forge, val., del. Pittsburgh	19.76	19.64	21.66	20.26
Ferromanganese, del., Pittsburgh	119.79	119.79	119.79	110.79
*1.75 to 2.25 silicon. **2.25 to 2.75 silicon.				
COKE				
Connellsville furnace, ovens	2.75	2.80	3.10	2.85
Connellsville foundry, ovens	3.75	3.75	3.85	4.05
SEMIFINISHED MATERIAL				
Sheet bars, bessemer, Pittsburgh	35.00	35.00	37.00	39.20
Sheet bars, open-hearth, Pittsburgh	35.00	35.00	37.00	39.20
Billets, bessemer, Pittsburgh	35.00	35.00	35.80	38.00
Billets, open-hearth, Pittsburgh	35.00	35.00	35.80	38.00
FINISHED MATERIAL				
Steel bars, Pittsburgh	2.00	2.00	2.05	2.15
Steel bars, Chicago	2.10	2.10	2.20	2.20
Steel bars, Philadelphia	2.32	2.32	2.32	2.47
Iron bars, Philadelphia	2.22	2.22	2.27	2.42
Iron bars, Chicago mill	2.05	2.05	2.10	2.20
Beams, Pittsburgh	2.00	2.00	2.05	2.15
Beams, Philadelphia	2.22	2.22	2.32	2.37
Beams, Chicago	2.10	2.20	2.25	2.25
Tank plates, Pittsburgh	1.90	1.95	2.00	2.10
Tank plates, Philadelphia	2.22	2.22	2.32	2.17
Tank plates, Chicago	2.10	2.20	2.25	2.25
Sheets, black, No. 28, Pittsburgh	3.15	3.15	3.35	3.60
Sheets, blue anl., No. 10, Pittsburgh	2.30	2.30	2.55	2.75
Sheets, galvanized, No. 28, Pittsburgh	4.20	4.25	4.50	4.70
Sheets, black, No. 28, Chicago	3.35	3.40	3.65	4.00
Sheets, blue anl. No. 10, Chicago	2.45	2.50	2.75	3.25
Sheets, galvanized, No. 28, Chicago	4.40	4.50	4.75	5.15
Wire nails, Pittsburgh	2.70	2.70	2.80	2.85
Wire nails, Chicago	2.75	2.80	2.90	3.20
OLD MATERIAL				
Heavy melting steel, Pittsburgh	17.00	17.10	17.00	17.30
Heavy melting steel, eastern Pa.	16.00	15.65	15.50	15.60
Heavy melting steel, Chicago	15.00	15.90	15.00	14.75
No. 1 wrought, eastern Pa.	18.25	18.20	18.40	18.05
No. 1 wrought, Chicago	15.75	15.90	14.60	17.80
Rails for rolling, Chicago	17.25	18.15	15.85	15.50

Composite Market Average

The Fourteen Leading Iron and Steel Products Included are Pig Iron, Billets, Slabs, Sheet Bars, Wire Rods, Steel Bars, Plates, Structural Shapes, Black, Galvanized and Blue Annealed Sheets Tin Plate, Wire Nails and Black Pipe

This week (July 8, 1925)	$37.45
Last week (July 1, 1925)	37.45
One month ago (June, 1925)	37.60
Three months ago (April, 1925)	39.45
One year ago (July, 1924)	39.78
Ten years ago (July, 1915)	24.25
Twelve years ago (July, 1913)	26.34

Late News Flashes

Valley Production Is Heavier

Youngstown, O., July 7.—Valley sheet mill activity this week is at 62 per cent of capacity. Repairs are being made at hot mill departments of the Falcon Steel Co. and the Mahoning Valley Steel Co., but these plants will resume next week. Independents are operating 63 per cent of ingot capacity against 56 per cent a week ago and the entire district, 65 per cent against 61 per cent.

Chicago Reduces Output Temporarily

Chicago, July 7.—One of the three Inland Steel Co. blast furnace stacks has been blown out for repairs. Meanwhile most of the open-hearth furnaces on the No. 1 side of the Inland plant at Indiana Harbor are down. The rate of operations has been reduced to about 65, but within 10 days it is expected the 80 per cent gait will be resumed. The Illinois Steel Co. continues to have 17 of its 27 steel works stacks in blast. Steel ingot production for the district is about 78 per cent.

Sells Blast Furnaces

Pittsburgh, July 7.—Sale of the two Schoenberger blast furnaces of the American Steel & Wire Co., at Pittsburgh, has been made to the Pennsylvania railroad, according to a recent announcement. The furnaces and the plant will be dismantled. These furnaces were built in 1865 and had an annual capacity of 164,000 tons. Neither has been active for several years.

Carnegie Takes Off Furnaces

Pittsburgh, July 7.—Having taken off three blast furnaces, the Carnegie Steel Co. is left with but 24 out of 58 active, the lowest point in a long time. The Perry Iron Co., and the Stewart Iron Co. furnaces have been taken off, but the Sharpsville Furnace Co. stack banked May 3 has resumed.

The Carnegie Steel Co., which operated 55 per cent for the week ended July 2 started out the present week at 52 per cent. Due to holiday shutdowns, vacations, etc., other plants likewise have cut down their rates but the general average is between 60 and 65 per cent.

To Dismantle Columbus Works

New York, July 7.—Reports that the Carnegie Steel Co. is about to dismantle and scrap its Columbus works, Columbus, O., is confirmed by a statement at executive offices of the Steel corporation. When the dismantling will begin, was not stated. The Columbus works consists of two furnaces, a steel plant of two bessemer converters, a 32-inch blooming and a 24-inch sheet bar mill. Its annual rated capacity is 200,000 tons of ingots and 150,000 tons of sheet and tin bars.

Current Rolled Steel Prices

PRICES, CENTS PER POUND, UNLESS OTHERWISE STATED

Semifinished Material

Prices per gross ton

BILLETS AND BLOOMS
4 x 4-inch and larger

Pittsburgh, open hearth	$35.00
Pittsburgh, bessemer	35.00
Youngstown	35.50
Philadelphia	40.30 to 40.80
Chicago	35.00
Forging, Pittsburgh	40.00 to 40.50
Forging, Philadelphia	45.30 to 45.80

SHEET BARS

Pittsburgh and Youngstown	35.00

SLABS

Pittsburgh	33.50 to 35.00
Youngstown	33.50

WIRE RODS
¼-inch and finer

Pittsburgh	$45.00
Cleveland	45.00
Chicago	48.00 to 49.00

Standard extras, $2.50 per ton over ⅜-inch; $5 for screw stock; $15 for acid wire rods. Carbon extras, $3 for 0.20 to 0.40; $5 for 0.41 to 0.55; $7.50 for 0.56 to 0.75; $10 over 0.75.

SKELP

Grooved skelp, Pittsburgh	1.90c
Universal skelp, Pittsburgh	1.90c
Sheared skelp, Pittsburgh	1.90c

Structural Shapes

Pittsburgh	2.00c
Philadelphia	2.15c to 2.32c
New York	2.19c to 2.34c
Chicago	2.10c to 2.20c
Cleveland	2.19c to 2.29c
Birmingham	2.15c to 2.25c

Steel Plates

Pittsburgh	1.90c
Philadelphia	2.12c to 2.32c
New York	2.14c to 2.34c
Chicago	2.10c to 2.20c
Cleveland	2.19c to 2.29c
Birmingham	2.05c to 2.15c

Iron and Steel Bars

Pittsburgh, soft steel	2.00c
Pittsburgh, cold finishing	2.15c to 2.25c
Pittsburgh, forging quality	2.25c to 2.35c
Philadelphia, soft steel	2.22c to 2.32c
New York, soft steel	2.24c to 2.34c
Chicago, soft steel	2.10c
Cleveland, soft steel	2.19c to 2.29c
Birmingham, soft steel	2.15c to 2.25c
San Francisco, soft steel	2.60c
Pittsburgh, refined iron	3.00c to 4.50c
Pittsburgh, reinforcing billet	1.95c to 2.00c
Chicago, rail steel	2.00c
Mill, rail steel	1.90c to 2.00c
Philadelphia, common iron	2.17c to 2.22c
New York, common iron	2.19c to 2.24c
Chicago, common iron	2.00c to 2.10c

Hoops, Bands, Strips

Hoops, Pittsburgh, 6 inches and under	2.40c
Bands, Pittsburgh, 6 inches and under	2.40c
Hot rolled strip steel, Pittsburgh stamping quality	2.20c to 2.40c
Hot rolled strip steel, Chicago	2.40c to 2.50c
Cold rolled strip steel, hard coils, 1½ inches and wider by 0.100-inch and heavier, base, Pittsburgh, Cleveland	3.75c to 4.00c
Worcester, Mass., Chicago	4.15c

Cold Finished Steel

Cold finished steel bars, drawn or rolled Pittsburgh, Chicago, carloads	2.50c to 2.60c
Less carload	2.85c
Steel shaft'g, turned and polished Pittsburgh, Chicago	2.60c

Screw stock base Cleveland $1 higher; and Worcester $3 higher than Pittsburgh and Chicago.

Hot Rolled Alloy Steels

Pittsburgh base

S. A. E. Series—	
2300 (3½ per cent nickel)	4.50c to 4.75c
3100 (nickel chromium)	3.50c to 3.65c
6100 (Chrome vanadium)	4.25c to 4.50c
6100 (Chrome vanad. spring)	4.00c
9250 (Silico mang. spring)	3.50c to 3.65c

Billets—4 x 4 to 10 x 10, gross ton at net ton bar price; under 4 x 4 to 2½ x 1¼-inch $5 higher. Chicago base $2 higher.

Rails, Track Material

Standard bessemer rails, mill	$43.00
Standard open-h'th rails, mill	43.00
Relaying rails, St. Louis	23.00 to 31.00
Relaying rails, Pittsburgh	27.00 to 30.00
Light rails, 25 to 45 mill	1.70c
Angle bars, Chicago base	2.70c
Spikes, railroad, Pittsburgh	2.50c
Spikes, small railroad, 7-16 inch and smaller, Pitts.	3.00c to 3.10c
Spikes, boat and barge, Pitts.	3.25c
Spikes, railroad, Chicago	2.90c to 3.00c
Track bolts, Pitts. standard	3.90c to 4.15c
Track bolts, Chicago	3.90c to 4.15c
Tie plates, Pittsburgh	2.35c
Tie plate, Chicago	2.35c

Wire Products

To Jobbers in Carloads

F.o.b. Cleveland and Pittsburgh base

Wire nails	2.65c
Galv'd nails smaller than 1-inch	4.90c
Galvd' nails, 1-inch and over	4.65c
Plain wire	2.50c
Annealed wire	2.65c
Galvanized wire No. 9 gage	3.10c
Barbed wire, painted	3.10c
Barbed wire, galvanized	3.35c
Polished staples	3.10c
Galvanized staples	3.35c
Coated nails, count keg	1.85c
Woven wire fencing (retailers) 12½ gage, 26-in. high 7-in. bars and 12-in. stays, per 100 rods, f.o.b. Pitts.	$20.03

Joliet, DeKalb and Waukegan, Ill., $2 per ton over Cleveland-Pittsburgh base on products made there. Worcester, Mass., and Fairfield, Ala., $3 higher. Duluth $2 higher. Chicago delivered price $3 higher, Anderson, Ind., $1 higher.

Sheets

SHEET MILL BLACK

No. 28, Pittsburgh base	3.10c to 3.20c
No. 28 Philadelphia, delivered	3.32c to 3.42c
No. 28 Gary, Ind. Harbor	3.30c to 3.35c
No. 28, Chicago, delivered	3.35c to 3.40c

TIN MILL, BLACK

No. 28, Pittsburgh	3.10c to 3.20c
No. 28, Gary base	3.30c to 3.35c

GALVANIZED

No. 28, Pittsburgh base	4.20c to 4.25c
No. 28, Philadelphia, delivered	4.47c to 4.57c
No. 28, Gary, Indiana Harbor	4.35c to 4.45c
No. 28, Chicago, delivered	4.40c to 4.50c

BLUE ANNEALED

No. 10, Pittsburgh base	2.30c to 2.40c
No. 10, Philadelphia, delivered	2.57c to 2.62c
No. 10, Gary, Indiana Harbor	2.40c to 2.50c
No. 10, Chicago, delivered	2.45c to 2.55c

AUTOMOBILE SHEETS

No. 22, Pittsburgh base	4.25c

Tin Plate

Prices per 100-pound box, Pittsburgh

Tin plate, coke base	$5.50

Gary, Ind. base 10 cents higher

Iron and Steel Pipe

Base Discounts Pittsburgh and Lorain, O. to Jobbers in Carloads

	Black	Galv.
1 to 2-inch, butt steel	62	50½
1 to 1½-inch, butt iron	30	18

Indiana Harbor, Ind., and Evanston, Ill., 1 points less and $4 per ton higher. Chicago delivered 2½ points less and $5 per ton higher.

Boiler Tubes

Less Carload Discounts—Carloads 4 Points Additional—F.o.b. Pittsburgh Mills

Steel 3¼ to 3⅝-inch	38½
Charcoal iron, 3¼ to 4½-inch	5
Seamless hot rolled, 3¼ to 3½-inch	46 off

Chain, Piling, Cut Nails

Chain, 1-in. proof coil, Pitts.	6.15c to 6.25c
Sheet piling base, Pittsburgh	2.25c to 2.30c
Cut nails, f.o.b. mills	2.90c

Cast Iron Water Pipe

Prices per net ton
Class B Pipe

Four-inch, Chicago	52.20 to 53.20
Six-inch and over, Chicago	48.20 to 49.20
Four-inch, Birmingham	44.00 to 44.50
Six-inch and over, Birmingham	40.00 to 40.50
Four-inch, New York	56.50 to 57.60
Six-inch and over, New York	51.50 to 52.60
Standard fittings, Birmingham, base	$110.00

6 to 24-inch, base; over 24-inch, plus $20; 4-inch, plus $30; 3-inch, plus $20; gas pipe fittings, $5 higher.

Class A pipe is $5 higher than Class B.

Nuts and Bolts

F.o.b. basing points, Pittsburgh, Cleveland, Birmingham and Chicago.

Hot pressed square tapped or blank	$4.00 off list
Hot pressed hexagon tapped or blank	$4.40 off list
Cold punched square or hexagon blank	$4.10 off list
Cold punched square or hexagon tapped or blank	$4.10 off list
Cold punched U. S. S. semifinished hexagon nuts ⅝-inch and larger	75, 10 and 5 off
Cold punched U. S. S. semifinished hexagon nuts 9/16 inch and smaller	80, 10 and 5 off
Cold finished S. A. E. semifinished ⅝-inch and larger	75, 10, 10 and 5 off
Cold finished S. A. E. semifinished 9/16-inch and smaller	80, 10, 10 and 5 off

CARRIAGE BOLTS
(⅜ x 6", smaller and shorter)

Rolled thread	60, 10 and 10 off
Cut thread (all sizes)	50 and 10 off
Eagle carriage bolts (Eagle list)	65 and 10 off

MACHINE BOLTS
(⅜ x 4", hot pressed nuts)

Rolled thread	60 and 10 off
Cut thread (all sizes)	50, 10 and 10 off

(All sizes cold punched nuts)

Cut thread	45, 10 and 5 off
Lag screws	60, 10 and 10 off
Plow bolts Nos. 1, 2 and 3 heads	50 and 10 off
4 to 10 heads	50, 10 and 20 off
*Flat and round head stove bolts	80, 10 and 5 off
Tap bolts	30 off
Bolt ends with hot pressed nuts	50, 10 and 10 off
Bolt ends with cold punched nuts	45, 10 and 5 off
Blank bolts	50, 10 and 10 off

Rough stud bolts with nuts (250 pieces or more of a size) 40 and 10 off

Stove bolts 80, 10 and 5 off plus 2½ in bulk.

SEMIFINISHED CASTELLATED AND SLOTTED NUTS

Per 1000, f.o.b. producer's plant, freight allowed

	S.A.E. Castellated	U.S.S. Slotted
¼	$ 4.40	$ 4.40
5/16	5.15	5.15
⅜	6.20	6.60
7/16	7.90	9.00
½	10.10	10.50
9/16	13.80	14.20
⅝	17.00	17.30
¾	23.50	24.00
⅞	36.00	36.00
1	55.50	58.00
1⅛	89.00	89.00
1¼	126.00	131.00
1⅜	183.50	183.50
1½	210	210.00

Larger sizes—Prices on application

HEXAGON CAP SCREWS

Milled	80, 10 and 5 off
Upset	80, 10, 10 and 5 off

SQUARE HEAD SET SCREWS

Milled	80 and 10 off
Upset	80, 10 and 10 off

Rivets

Structural rivets, carloads Pittsburgh and Cleveland	2.35c to 2.40c
Structural rivets, carloads Chicago	2.65c
Rivets, 7/16-in. and smaller Pittsburgh and Cleveland	70, 10 and 5 off
Rivets, 7/16-in. and smaller Chicago*	70 and 10 to 70, 10 and 5 off

*Some makers quoting 70 off with freight allowed on 300 pounds or more.

Washers

Wrought, c.l., Chi. dist.	$6.50 off
Wrought, c.l., Pitts. dist.,	$6.00 to $6.10 off
Lock washers f.o.b. factory	85, 10 and 10 off

Pig Iron

Fewer Sales Closed—Buffalo Makers Again Offer Iron at $18.50—Prices Elsewhere Steady—Good Backlogs the Rule

QUIETER conditions are noted this week in the pig iron market. Sales are fewer and tonnages smaller, but furnace interests have good backlogs, and a large proportion of their customers have not closed for their last half requirements. Some of them have not fully covered for August and September. Furnace interests with headquarters at Cleveland, report sales of 15,000 tons during the last week, compared with 40,000 tons in the week preceding. The holiday had some influence on this. The only notable feature pertaining to prices this week is that some Buffalo furnaces have gone back to $18.50 or even $18.25 on sales to New England. The valley price remains $18.50, while westward, south and north $19 prevails, except at Chicago where $20.50 remains.

PITTSBURGH, July 7.—Despite inactivity for large lots of pig iron prices continue to hold. Numerous small sales of foundry grades are noted at $18.50 valley base. Sales by one or two producers aggregate 300 to 600 tons almost daily. One lot specifying five points silicon range brought $1 over base. The Elliott Co., Jeannette, Pa., divided 1000 tons of different grades among five sellers. The National Roll & Foundry Co., Avonmore, Pa., is understood to have closed for 500 tons of No. 2 iron on a reciprocity basis. The Mackintosh-Hemphill Co. has not placed its order for 500 tons of foundry iron. Several inquiries are pending for less than 500 tons. French & Hecht, Springfield, O., want 500 tons of No. 1 foundry iron for August-December delivery. No basic inquiry is pending. Another valley merchant producer has advanced basic 50 cents, quoting $18.50 minimum. The largest bessemer sale this week involves 250 tons at $19 valley. Inquiry pending involves 1000 tons. Several sales of low phosphorus iron. 300 to 1000 tons at a time for third quarter are noted at $24.50, eastern furnace.

Bessemer pig iron prices in June averaged $19, valley, compared with $19.81 in May, according to compilations of W. P. Snyder & Co. The basic iron average in June was $18, valley, compared with $18.50 in May.

Boston, July 7.—Two Buffalo producers have made some price concessions and booked 8000 to 10,000 tons in the New England district during the week. Most of this tonnage is understood to have been placed at $18.50, base furnace, or $23.41 delivered. One or two orders were placed at $18.25 furnace. Occasional sales as high as $19.50 are reported. Foundries are well covered for third quarter and more interest is being taken in fourth quarter iron. Pennsylvania sellers are not active in this market. The price there holds at about $20, furnace, for No. 2X (2.25 to 2.75 silicon).

Philadelphia, July 7.—Pig iron buying is restricted. One seller booked 5800 tons, mainly foundry grades, for third quarter, with some for October, including two 1000-ton lots. No. 2 plain still is $20 to $20.50, furnace. Small sales are made at the higher figure; one seller refused $20.75. An inquiry is current for 3500 tons of low phosphorus iron. A sale of 1000 tons of high silicon iron is noted. Basic iron is being sold in small lots, around $20, furnace.

Buffalo, July 7.—Pig iron buying is at low ebb, with consumers endeavoring to duplicate the low prices prevailing early in June. It is reported steelworks have been more active competitors for larger tonnages of iron. It is reported the nominal $19 base has been shaded on inquiries of 1000 tons or more. Merchant furnace operators are holding firm to this base, and are asking differentials. The American Radiator Co. is not pressing sales. Present inquiry is for about 5000 tons.

Cleveland, July 7.—Sales of pig iron by furnace interests represented at Cleveland totaled around 15,000 tons during the past week, compared with 40,000 tons in the week preceding. Three 1000-ton lots were sold, one in Michigan, one in Indiana and another in Ohio, these being the largest. Current inquiry totals 5000 tons. Makers are shipping a larger tonnage than they are producing. All have good order books, and much more iron remains to be placed for last half. Cleveland furnaces are asking $19.50 to $20, base furnace, for delivery in the local switching area, and competing with $18.50, valley, in outside sales. The lake furnace price remains $19, base.

Chicago, July 7.—Producers of northern pig iron report selling still on a good plane despite the booking of probably 400,000 tons for the third and fourth quarters, mostly the third. Some brokers, on the contrary, find interest waning somewhat. Recent selling in Chicago proper has been largely on the basis of $20.50, Chicago furnace, a price which seems out of line with quotations in eastern districts. A Milwaukee furnace has been quoting $20.50, furnace. Several sales of basic iron to a St. Louis user at less than $20, delivered, are reported. Steelmakers say they do not expect to have any merchant iron to market in the near future. Many lots of 100 to 300 tons of malleable iron have been placed in the Milwaukee district in the past week. A Chicago melter has taken on 1200 tons of No. 2 foundry. A Milwaukee interest is about to close on 200 tons of low phosphorus.

Cincinnati, July 7.—With requirements of the principal consumers of pig iron in this district for the balance of the year covered buying has dropped off. However, prices hold firm and it is difficult to do better than $19 Ironton base on northern foundry iron. The market on southern iron ranges from $17.50 to $18.50 Birmingham base, the former quotation applying to the product of the Tennessee furnaces. Silvery iron prices are being shaded $1 to $2 a ton with sales small. The Louisville & Nashville railroad is reported to have bought 600 tons of southern iron and

Pig Iron Prices

Prices per gross tons

Bessemer, valley	$19.00
Bessemer, Pittsburgh	20.76
Basic, valley	18.00 to 18.50
Basic, Pittsburgh	19.76 to 20.26
Basic, Buffalo	18.50 to 19.00
Basic, del., eastern Pa.	21.25 to 22.75
Malleable, valley	18.50 to 19.00
Malleable, Pittsburgh	20.26 to 20.76
Malleable, Cleveland	20.00
Malleable, Chicago	20.00 to 20.50
Malleable, Buffalo	18.50 to 19.00
Malleable, del., eastern Pa.	21.75 to 22.25
No. 1X, eastern del., Phila.	21.76 to 22.26
No. 1X, Buffalo	19.50 to 20.00
No. 1 foundry, Chicago	20.50 to 21.00
No. 2 foundry, valley	18.50
No. 2 foundry, Pittsburgh	20.26
No. 2 foundry, Buffalo	18.50 to 19.00
No. 2 foundry, Chicago	20.00 to 20.50
No. 2 foundry, Granite City	21.50 to 22.00
No. 2 foundry, Ironton fur.	19.00
No. 2 foundry, Cleveland, del.	20.00
No. 2 foundry, del., Phila.	20.76 to 21.26
No. 2 foundry, N. J., tidewater	21.39 to 21.76
No. 2X, Eastern del., Phila.	21.26 to 21.76
No. 2X, east. N. J., tidewater	21.89 to 22.26
No. 2X, eastern del., Boston	24.15 to 24.65
No. 2X, foundry, Buffalo fur.	19.00 to 19.50
No. 2X, Buffalo, del., Boston	23.41 to 23.91
Continental foundry, Boston	23.50 to 24.00
No. 2 southern, Birmingham	17.50 to 18.50
No. 2 southern, Cincinnati	21.50 to 22.55
No. 2 southern, Philadelphia	25.31 to 26.31
No. 2 southern, Chicago	23.51 to 24.51
No. 2 southern, Cleveland	23.51 to 24.51
No. 2 southern Boston (rail and water)	24.41 to 25.41
No. 2 southern, St. Louis	21.92 to 22.92
No. 2X, Virginia furnace	23.00
No. 2X, Virginia, Phila.	28.17
No. 2X, Virginia, Jersey City	28.54
No. 2X, Virginia, Boston	28.92
Gray forge, eastern Pa.	21.50 to 22.00
Gray forge, val. del. Pitts.	19.76
Low phos., standard, valley	28.00
Low phos., standard, Phila.	27.79 to 28.79
Low phos., Lebanon, furnace	24.50 to 25.50
Low phos., English, Phila.	25.26 to 25.76
Charcoal, Birmingham	32.00
Charcoal, Superior, Chicago	29.04

Silvery iron, Jackson county, Ohio, furnace, 6 to 7 per cent $23.00 to $25.00; 8 to 9 per cent $25.50 to $27.50; 9 to 10 per cent, $27.50 to $29.50; 10 to 11 per cent, $29.50 to $31.50.

Bessemer ferrosilicon, Jackson county, Ohio, furnace, 10 to 11 per cent, $35.50; 11 to 12 per cent, $37.50; 12 to 13 per cent, $39.50.

a small tonnage of charcoal iron for third quarter.

St. Louis, July 7.—While buying of pig iron continues in small volume, more strength is in evidence. With fair backlogs furnaces are not competing strenuously for business. The minimum on southern iron is $18, Birmingham, and two important producers in that section are firm at $19.50 to $20. A small quantity of northern iron was placed at a price figuring back $20 Chicago. Although makers there are quoting $20.50 to $21. The leading local producer is firm at $20.50 to $21, f.o.b. Granite City. Sales reported for the week totaled under 2000 tons.

New York, July 7.—Pig iron sales aggregate possible 6000 tons. The leading seller booked 2000 tons in miscellaneous orders, including some for the remainder of the year delivery. Several other sellers have booked business amounting to 450 to 600 tons each. Inquiry includes lots of 1000 tons and 500 to 700 tons, both for Connecticut consumers and 300 to 500 for New Jersey consumer, practically all foundry grades for delivery both spot and third quarter. Eastern Pennsylvania foundry iron is steady at $20 to $20.50. Buffalo iron is $19 to $19.50. Several small tonnages going at the latter figure.

Birmingham, Ala., July 6.—Pig iron sales during the past few weeks have equalled the make. With quotations down to $18.50 to $19 for No. 2 foundry, it is believed southern furnace interests will during the next week or two book a large tonnage. Plans for curtailment of production are being abandoned. Large consumers have not yet covered for third quarter.

Ferroalloys

Spiegeleisen Sold With Prices Steady —Domestic Ferro Moving

New York, July 7.—Approximately 1000 tons of spiegeleisen was closed with prices unchanged at $32 to $33, furnace. Inquiry is fair but business is spotty. From 500 to 1000 tons of ferromanganese, chiefly domestic, was sold at $115, duty paid tidewater. Special ferroalloys are featureless. Several lots of foreign fluorspar of 100 to 200 tons each were placed at $17.50 to $18.00.

High grade wolframite has sold at above $12 a short ton unit and a quotation of $12 now fairly represents the market. Only 200 or 300 tons of ordinary wolframite now remain in stock and the price ranges nominally between $11 and $11.50 a unit. Shipments of ferrosilicon and ferrochrome remain at the same high rate. Demand for automobile alloy steels is unabated.

Pittsburgh, July 7.—The movement in ferroalloys the past week was fair, mostly in specifications against contracts. Some sellers note a slackening of specifications against ferromanganese contracts. One sale of 300 to 400 tons was made to a nearby consumer. Other sales involved single carloads. Prices held firmly to $115, seaboard base, on domestic and English material respectively. Specifications against ferrosilicon and other ferroalloy contracts also have slackened—in some cases as much as 50 per cent. Fifty per cent ferrosilicon still is quoted at $82.50 to $85, freight allowed. Further contracts are noted in spiegeleisen—one involving about 500 tons for last half. Several are scheduled for closing this week. Prices are unchanged at $31 to $33, furnace.

Ferroalloy Prices

†Ferromanganese 78 to 82 per cent, tidewater, or furnace first hand and resale	$115.00
Ferromanganese delivered Pittsburgh	119.79
Spiegeleisen 19 to 21 cent per domestic furnace or tidewater	32.00 to 33.00
Ferrosilicon, 50 per cent contract freight allower	82.50 to 85.00
Ferrotungsten standard, cents per pound contained	1.00 to 1.05
Ferrochrome, 60 to 70 chromium, 6 to 8 carbon, cents per pound contained, delivered	11.50
Ferrovanadium, 30 to 40 per cent per pound estimated, according to analysis	3.25 to 3.75
Ferro-carbon-titanium, car lots, producer's plant, net ton	200.00
Ferrophosphorus, electrolytic, per ton, carload, 17 to 19 per cent, Rockdale, Tenn., basis (18 per cent material)	$91.00
Ferrophosphorus, electrolytic, per ton, carload, 23 to 25 per cent, f.o.b. Anniston, Ala., (24 per cent material	$122.50
†Duty paid	

Coke

Furnace Inquiries Lacking in Connellsville District—Foundry Specifications Drop

THE market for beehive furnace coke is dull, Connellsville operators reporting that they do not have one inquiry from furnaces before them at this time. Output has been reduced to the level of consumption. Sales of furnace coke for non-metallurgical purposes are bringing $2.75 to $2.85. Foundry coke specifications have dropped 50 per cent.

Pittsburgh, July 7.—Production of beehive coke is being restricted until output practically equals consumption. This leaves little coke available in the spot market, but one or two producers operating waste heat ovens are selling the standard furnace grade for non-metallurgical purposes in lots of a few cars up to 800 tons at $2.75. Other spot sales are noted at $2.80 and $2.85. Some oven operators have nothing on their books below $3 and will not quote less. Others want a still higher figure before putting in ovens, but not a single blast furnace inquiry is before the trade. Specification against foundry coke contracts have dwindled almost 50 per cent for the first two weeks of July. The coke is quoted $3.75 to $4.25. Premium brands are $4.75 and higher. Some coke not strictly standard foundry is available around $3.50.

Production of beehive coke, according to the *Connellsville Courier* in the week ended July 1 was 71,860 tons as against 74,200 tons in the previous week.

Boston, July 7.—Foundry coke specifications show some improvement. The rate of melt is reported well sustained throughout the district. The by-product coke price is unchanged at $11.50 delivered.

St. Louis, July 7.—A fair volume of contracting is reported by by-product coke producers. Current sales for spot shipment are satisfactory. The leading East Side producer reports the sale of 600 tons of smelter coke for delivery through the next three months, also 2500 to 300 tons of foundry coke for third quarter. By-product plants are shipping slightly more than their output. Prices are unchanged.

Cincinnati, July 7.—Interest in the local coke market centers on the foundry grade. Producers of by-product foundry coke report users are specifying liberally. Prices are weak.

Birmingham, Ala., July 6.—Independent producers are selling coke at $4.50 to $5 for the goods. Iron and steel companies are keeping their by-product plants in full operation. Inquiry is noted for the remainder of the year, and confidence in the future condition of the market is apparent.

New York, July 7.—Coke is steady with spot prices averaging $4.50, Connellsville. By-product foundry is held at $10.41, Newark. Consumers practically are covered for the third quarter.

Coke Prices*

Beehive, Ovens Prices per net ton	
Connellsville, furnace	$ 2.75 to 3.00
Connellsville, foundry	3.75 to 4.25
New River foundry	7.50 to 8.00
Wise county furnace	3.75 to 4.25
Wise county foundry	4.50 to 5.25
Alabama foundry	4.50 to 5.00
Alabama furnace	4.00 to 4.50
By-Product	
Foundry, Newark, N. J.; del.	$10.41
Foundry, Chicago, ovens	9.75
Foundry, New England, del.	11.50
Foundry, St. Louis	11.00
Foundry, Granite City, Ill.	9.00
Foundry, Birmingham	4.50 to 5.00

Plates

Fairly Good Tonnages in Market for Bids—Eastern Demand More Active

PLATE demand is moderately active. The Canadian National railways are in the market for two car ferries requiring about 5000 tons of plates and the Standard Oil Co. of New Jersey wants 3000 tons for oil refining equipment. The Great Northern railroad has placed 250 general service cars requiring 6000 tons of plates. Buying in the East shows more life.

PLATE PRICES, PAGE 88

Cleveland, July 7.—More requirements from the oil industry are featuring plate conditions. From one direction an inquiry is out for 3000 tons for refining equipment for the Standard Oil Co. of New Jersey; from another fabricator a similar request for 850 tons. The Gulf Refining Co. requirement, a lot of 1200 tons, has not been disposed of. For two car ferries for the Canadian National railways now pending about 5000 tons are involved. No early action is expected on other vessel propositions which have been pending before lake yards for some weeks. Miscellaneous tonnage is holding up well. On the 1500 tons, largely plates, for the New York Central railroad, a bid of 2.00c, Cleveland, equivalent to 1.81c, Pittsburgh, is understood to have been made. For the general market, however, the price is 1.90c, Pittsburgh or 2.09c, Cleveland.

Boston, July 7.—Plate prices have further weakened at Boston and now hold at about 1.85c Pittsburgh or 2.215c delivered. Sales are light.

Philadelphia, July 7.—Plate demand shows more life, although there is no outstanding tonnage. While 1.80c, Pittsburgh, still is done, most orders are taken at 1.90c. Contracts over the remainder of the year are going at 2.00c. One mill is operating at 55 to 60 per cent of capacity. Railroad buying is confined largely to locomotive repairs.

Pittsburgh, July 7.—Present demands upon plate makers are miscellaneous and involve small amounts. Fabricators report that no inquiries of importance are before them for tanks. Barge demand is absent and other forms of plate fabrication are quiet. Some platemakers are able to operate 50 per cent of capacity; others are in better shape but their backlogs of railroad car business are dwindling. Prices are unchanged at 1.90c.

Chicago, July 7.—One maker has booked 1500 tons of plates for oil storage tanks. Approximately 6000 tons of plates are involved in 250 general service cars for the Great Northern railroad and 400 gondola underframes for the Monon. Plates are quoted at 2.10c to 2.20c, Chicago.

New York, July 7.—Plate buying comprises small scattered lots. Little new pipe work is pending. Standard Oil Co. of Louisiana is in the market for 350 tons of plates for tank work. Prices are holding to their recent levels.

The Standard Oil Co. of New Jersey is in the market for 3000 tons of plates for its oil refining equipment.

CONTRACTS PLACED

125 tons, dredge pipe requirements for year for Oakland, Calif., to Pacific Coast Engineering Co.

100 tons, four welded stills, Shell Oil Co., San Francisco, to Steel Tank & Pipe Co.

CONTRACTS PENDING

3000 tons, plates and shapes for Southern Pacific Equipment Co., San Francisco, for 500 box cars; bids in July 13.

1500 tons, Eugene pipe line, Eugene, Oreg.; bids July 21.

475 tons, two barges for general Petroleum Corp., Los Angeles; project abandoned.

5000 tons, two carferries for Canadian National railways; pending.

3000 tons, refining equipment for Standard Oil Co. of New Jersey; pending.

350 tons, tank work for Standard Oil Co. of Louisiana; pending.

Semifinished

Slab Tonnage Placed at $33.50—Sheet Bars and Billets Continue $35—Market Quiet

MAKERS of semifinished material are selling to their regular customers for early shipment, a fair volume of business being booked. Contracting is unusually light. Producers show a firmer tendency to hold to recent price levels, although a quotation of $35, Pittsburgh, on slabs failed to take 1500 tons, placed at a figure believed to be $33.50.

SEMIFINISHED STEEL PRICES, PAGE 88

Pittsburgh, July 7.—Sales of semifinished material are few and far between, one or two being noted in slabs and one or two in forging billets. One of the latter with extras, etc., brought $48, Pittsburgh and involved a good size tonnage. The regular price on forging billets is $40, base. A sale of slabs involving 1500 tons was lost to a company quoting the $35, Pittsburgh figure. A contract for slabs for third quarter, however, brought the $35 price and one or two billet contracts also brought the $35 figure, one being 4 x 4 inch and the other being small billets. Sheet bars continue to be quoted at $35, Pittsburgh, and while several tentative inquiries still are making the rounds, these are in the form of offers to pay a lower figure. Wire rods are being sold at $45, which now appears to be the figure followed everywhere. Skelp continues inactive at 1.90c. Some shipments are being made against skelp contracts, but nothing in the way of new business is coming up.

New York, July 7.—Prices of semifinished material are receiving a better test. Rerolling billets are nominally $35, and forging quality $40, although concessions are likely to be made on sizable business.

Youngstown, O., July 7.—Bids have gone in for 300 tons of forging billets for the third quarter for the New York Central railroad. Quotations submitted by numerous producers are equivalent to $40, Youngstown delivered. Sheet bars are about the only semifinished product moving in the current market. Some are being purchased in the open market and some on contract. Negotiations are being made at $35, Youngstown, which figure also applies on small billets. While no inquiry is being made for slabs and large billets they are held at $35, Youngstown, for small lots. On attractive tonnages $33.50, Youngstown, can be obtained.

Locomotive Sales Gain

Washington, July 7.—June sales of locomotives totaled 110, compared with 96 in May, according to data just released by the department of commerce. Domestic sales dropped from 68 to 61. Unfilled orders as of July 1 showed a loss of 70 from the preceding month. Further comparisons follow:

Year and month	—Shipment— Total	Domes.	Unfilled orders Total	Domes.
1920 monthly ave.	199	110	1,323	894
1921 monthly ave.	112	69	337	206
1922 monthly ave.	106	88	889	791
1923 monthly ave	226	249	1,592	1,511
1924 monthly ave	122	110	479	424
1925				
January	90	45	407	351
February	85	73	397	343
March	109	93	447	351
April	92	82	477	362
May	96	68	467	358
June	110	61	397	300

Iron and Steel Scrap Prices

Corrected to Tuesday Noon. Gross Tons Delivered to Consumer

Steel Works Scrap

HEAVY MELTING STEEL

Birmingham	13.00 to 14.00
Boston (dealers)	11.00 to 11.50
Buffalo	16.00 to 16.50
Chicago	15.00 to 15.50
Cincinnati (dealers)	13.00 to 13.50
Cleveland	15.50 to 16.00
Detroit	13.25 to 13.75
Eastern Pennsylvania	15.00 to 16.50
New York (dealers)	11.00 to 11.50
Pittsburgh	17.00 to 17.50
St. Louis	14.50 to 15.00
Valleys	17.00 to 17.25

COMPRESSED SHEETS

Buffalo	15.00 to 15.50
Chicago	12.50 to 13.00
Cleveland	13.50 to 13.75
Detroit	11.50 to 12.00
Pittsburgh	16.00 to 16.50
Valleys	15.50 to 15.75

BUNDLED SHEETS

Buffalo	13.50 to 14.00
Cincinnati (dealers)	10.50 to 11.00
Cleveland	11.75 to 12.00
Eastern Pennsylvania	13.50
Pittsburgh	15.00 to 15.50
St. Louis	9.00 to 9.50
Valleys	11.75 to 12.00

SHEET CLIPPINGS, LOOSE

Chicago	8.75 to 9.25
Cincinnati	10.00 to 10.50
Detroit	9.00 to 9.50

STEEL RAILS, SHORT

Birmingham	13.00 to 14.00
Buffalo	18.50 to 19.00
Chicago	17.75 to 18.25
Cincinnati (dealers)	16.00 to 17.00
Cleveland (over 6 ft.)	15.50 to 15.75
Detroit	17.00 to 17.50
St. Louis	17.00 to 17.50

STOVE PLATE

Birmingham	13.00 to 13.50
Boston (consumers)	13.50 to 14.00
Buffalo	15.00 to 15.50
Chicago	15.75 to 16.25
Cincinnati (dealers)	9.50 to 10.00
Cleveland	12.75 to 13.00
Detroit (net tons)	12.50 to 13.00
Eastern Pennsylvania	14.00
New York (dealers)	10.50 to 11.00
Pittsburgh	13.50 to 14.00
St. Louis	13.00 to 13.50

LOW PHOSPHORUS

Buffalo	18.50 to 19.00
Cincinnati (dealers)	15.00 to 15.50
Eastern Pennsylvania	20.00 to 21.00
Pitts. billet and bloom crops	22.50 to 23.00

SHOVELING STEEL

Chicago	14.75 to 15.25
Pittsburgh	12.00 to 12.50
St. Louis	14.50 to 15.00

KNUCKLES, COUPLERS, SPRINGS

Chicago	18.00 to 18.50
Eastern Pennsylvania	19.50 to 20.00
Pittsburgh	20.00 to 20.50
St. Louis	16.50 to 17.00

FROGS, SWITCHES, GUARDS

Chicago	16.00 to 16.50
Eastern Pennsylvania	15.00 to 16.00
St. Louis	15.00 to 15.50

ANGLE BARS—STEEL

Buffalo	16.50 to 17.00
Chicago	17.25 to 17.75
St. Louis	16.00 to 16.50

Iron Mill Scrap

RAILROAD WROUGHT

Birmingham	12.00 to 13.00
Boston (dealers)	13.50 to 14.00
Buffalo, No. 1	13.00 to 13.50
Buffalo, No. 2	16.00 to 16.50
Chicago, No. 1	15.75 to 16.25
Chicago, No. 2	15.00 to 15.50
Cincinnati, No. 1 (dealers)	10.50 to 11.00
Cleveland, No. 1	13.00 to 13.50
Eastern Pennsylvania	18.00 to 18.50
New York, No. 1 (dealers)	15.00 to 15.50
Pittsburgh, No. 1	13.00 to 13.50
Pittsburgh, No. 2	17.00 to 17.50
St. Louis, No. 1	14.50 to 15.00
St. Louis, No. 2	14.00 to 14.50

WROUGHT PIPE

Boston (dealers)	10.50 to 11.00
Buffalo	12.00 to 12.50
Eastern Pennsylvania	16.00 to 16.50
New York (dealers)	11.75 to 12.25

YARD WROUGHT

Boston	12.00 to 12.50
Eastern Pennsylvania	17.00 to 18.00

BUSHELING

Buffalo	15.00 to 15.50
Chicago, No. 1	12.75 to 13.25
Chicago, No. 2	9.50 to 10.00
Cincinnati, No. 1 (dealers)	9.50 to 10.00
Cleveland, No. 1	13.00 to 13.25
Cleveland, No. 2	12.25 to 12.50
Eastern Pennsylvania	14.00 to 15.00
Pittsburgh, No. 1	14.00 to 14.50
St. Louis, No. 1	13.00 to 13.50

MACHINE SHOP TURNINGS

Birmingham	7.00 to 8.00
Boston (chemical)	8.00 to 8.50
Buffalo	10.50 to 11.00
Chicago	8.50 to 9.00
Cincinnati (dealers)	9.50 to 10.00
Cleveland	13.00 to 13.25
Detroit	9.75 to 10.25
Eastern Pennsylvania	13.50
New York (dealers)	9.00 to 9.50
Pittsburgh	13.00 to 13.50
St. Louis	8.00 to 8.50
Valleys	12.75 to 13.00

CAST IRON BORINGS

Birmingham (chemical)	15.00 to 16.00
Birmingham (plain)	7.00 to 8.00
Boston (chemicals)	11.00 to 11.50
Boston (dealers)	8.50 to 9.00
Buffalo	10.75 to 11.25
Chicago	10.25 to 10.75
Cincinnati (dealers)	10.00 to 10.50
Cleveland	13.00 to 13.25
Detroit	10.00 to 10.50
Eastern Pennsylvania	13.50 to 14.00
Eastern Pennsylvania (chem.)	15.50 to 16.00
New York (dealers)	9.25 to 9.75
Pittsburgh	13.00 to 13.50
St. Louis	11.00 to 11.50
Valleys	13.00 to 13.25

MIXED BORINGS AND TURNINGS
For blast furnace use

Boston (dealers)	7.50 to 8.00
Cincinnati (dealers)	9.50 to 10.00
Cleveland	13.00 to 13.25
Detroit	10.00 to 10.50
Eastern Pennsylvania	12.00 to 13.00
New York (dealers)	8.75 to 9.25
Pittsburgh	12.00 to 12.50

PIPES AND FLUES

Chicago	12.00 to 12.50
Cincinnati (dealers)	8.00 to 8.50
Cleveland	8.75 to 9.00
St. Louis	11.00 to 11.50

RAILROAD GRATE BARS

Buffalo	14.00 to 14.50
Chicago	15.75 to 16.25
Cleveland	12.75 to 13.00
Eastern Pennsylvania	14.50
New York (dealers)	12.00 to 12.50
St. Louis	13.50 to 14.00

FORGE FLASHINGS

Boston (dealers)	10.00 to 10.50
Buffalo	12.50 to 13.00
Chicago	11.00 to 11.50
Cleveland (under 10 in.)	12.00 to 12.25
Cleveland (over 10 in.)	12.00 to 12.25
Detroit	10.00 to 10.50
Pittsburgh	12.50 to 13.00

FORGE SCRAP

Boston (dealers)	9.50 to 10.00
Chicago	18.00 to 18.50
Eastern Pennsylvania	14.50 to 15.00

ARCH BARS AND TRANSOMS

Chicago	22.00 to 22.50
St. Louis	21.00 to 21.50

Iron and Steel Works Scrap

AXLE TURNINGS

Boston (dealers)	9.00 to 9.50
Buffalo	14.50 to 15.00
Chicago	12.50 to 13.00
Cleveland	14.50 to 14.75
Eastern Pennsylvania	14.50 to 15.00
Pittsburgh	15.50 to 16.00
St. Louis	11.50 to 12.00

STEEL CAR AXLES

Birmingham	16.00 to 17.00
Boston (shipping point)	17.00 to 17.50
Buffalo	16.50 to 17.00
Chicago	18.50 to 19.00
Cleveland	16.25 to 16.50
Eastern Pennsylvania	23.00 to 24.00
Pittsburgh	20.50 to 21.00
St. Louis	19.50 to 20.00

SHAFTING

Boston (shipping point)	17.50 to 18.00
Chicago	19.00 to 19.50
Eastern Pennsylvania	23.00
New York (dealers)	17.50 to 18.00
St. Louis	17.50 to 18.00

Iron Foundry Scrap

CAR WHEELS

Birmingham, iron	15.00 to 16.00
Boston (consumers)	17.50 to 18.00
Buffalo	16.50 to 17.00
Chicago, iron	17.00 to 17.50
Chicago, steel	18.00 to 18.50
Cincinnati	13.50 to 14.00
Eastern Pennsylvania	17.00 to 18.00
New York iron (dealers)	13.00 to 14.00
Pittsburgh, iron	16.50 to 17.00
Pittsburgh, steel	20.00 to 20.50
St. Louis, iron	17.00 to 17.50
St. Louis, steel	18.00 to 18.50

NO. 1 CAST SCRAP

Birmingham, cupola	16.00 to 16.50
Boston	19.00 to 19.50
Buffalo	16.00 to 16.50
Chicago, No. 1 machinery	19.50 to 20.00
Chicago No. 1 railroad or agricultural	18.00 to 18.50
Cincinnati No. 1 Machinery cupola (net tons dealers)	17.50 to 18.00
Cleveland, cupola	17.75 to 18.00
Detroit (net tons)	15.00 to 15.50
Eastern Pennsylvania, cupola	17.50 to 18.00
New York, cupola (dealers)	14.00 to 14.50
Pittsburgh, cupola	17.00 to 17.50
San Francisco, delivered	20.00 to 21.00
Seattle	18.00
St. Louis, railroad	17.00 to 17.50
St. Louis, agricultural	18.00 to 18.50
St. Louis, machinery	19.00 to 19.50
Valleys	17.75 to 18.00

HEAVY CAST

Boston	14.50 to 15.00
Buffalo (breakable)	13.00 to 13.50
Cleveland	11.25 to 11.50
Detroit (automobile) (net ton)	20.00 to 20.50
Eastern Pennsylvania	16.50 to 17.00
New York (dealers)	13.50 to 14.00
Pittsburgh	15.00 to 15.50

MALLEABLE

Boston, railroad	19.00 to 20.00
Buffalo	17.50 to 18.00
Chicago, agricultural	16.50 to 17.00
Chicago, railroad	17.50 to 18.00
Cincinnati, railroad (dealers)	15.00 to 15.50
Cincinnati, agricultural (dealers)	14.00 to 14.50
Cleveland, agricultural	17.25 to 17.50
Cleveland, railroad	17.75 to 18.00
Detroit	16.00 to 16.50
Eastern Pennsylvania, railroad	15.00
Pittsburgh, railroad	17.00 to 17.50
St. Louis, agricultural	14.00 to 14.50
St. Louis, railroad	15.50 to 16.00

Miscellaneous Scrap

RAILS FOR ROLLING
5 feet and over

Birmingham	15.00 to 16.00
Boston (dealers)	12.00 to 12.50
Chicago	17.25 to 17.75
Cleveland	16.00 to 16.25
Eastern Pennsylvania	17.00 to 18.00
Pittsburgh district	19.00 to 19.50
St. Louis	17.50 to 18.00
New York	15.50 to 16.00

LOCOMOTIVE TIRES

Chicago, No. 1	18.00 to 18.50
Chicago, cut	18.50 to 19.00
St. Louis	16.50 to 17.00

LOW PHOSPHORUS PUNCHINGS

Chicago	16.00 to 16.50
Eastern Pennsylvania	18.00 to 19.00
Pittsburgh	19.50 to 20.00

Scrap

Demand Poor Except on Heavy Melting Steel—Prices Show Less Fluctuation—Dealers Active

BUYING of iron and steel scrap is confined to small tonnages. Heavy melting steel is the only item showing much life. Consumers generally are hesitant to buy and most of the present activity is from dealers. Two Chicago steelmakers have placed embargoes on heavy melting steel. Prices are somewhat steadier with few revisions of price lists.

Chicago, July 7.—Two independent steelmakers have placed embargoes on heavy melting steel and consequently most trading in this grade is among dealers. The last sale of steel to a melter was at $15.75 but $15.50 seems nearer the top of the market now. The market approaches $15 to $15.50 for heavy melting steel.

Philadelphia, July 7.—Iron and steel scrap prices are firmer with an advance of 50 cents per ton in knuckles. While consumers are not anxious for material, their supplies are believed to be fairly low and should substantial tonnages develop, the market likely would undergo a general advance. Sellers generally are taking a waiting attitude.

Cleveland, July 7.—Iron and steel scrap is sluggish in this district, consumers not being interested beyond immediate requirements. Beyond that some are asking that shipments on contract be curtailed, one large steelmaker here having held up all shipments of borings and turnings, the order to be effective a week or 10 days.

Cincinnati, July 7.—Movement of iron and steel scrap to consumers in this district is of small consequence. Most materials moving are being applied to old contracts. New business is light. Buyers dictate their prices when making purchases. Dealers are paying much less for scrap than a fortnight ago. The Norfolk & Western is closing July 10 with a list involving 2400 tons and July 17 with another list of 4500 tons.

St. Louis, July 6.—Buying of iron and steel is still at a low ebb, but sentiment has improved slightly and some tentative inquiries have appeared. Melters are considering purchasing scrap for laying down in their yards. Malleable is firmer than other items with cast the weakest. Rolling mill material is slow, and there is less demand for blast furnace scrap than 30 days ago.

Railroad offerings were confined to 85 cars by the Missouri Pacific, 21 cars by the Mobile & Ohio and 3000 tons by the Chicago, Milwaukee & St. Paul. The Missouri, Kansas & Texas and several other western roads will have lots out this week.

Birmingham, Ala., July 6.—While more or less iron and steel scrap is moving the Southern old materials market is reported quiet. Quotations are weak and further reductions are noted, heavy melting steel holding at $13. Preparatory to moving its yards, one of the larger local dealers is selling stock for quick removal.

Boston, July 7.—Demand for heavy melting steel continues to feature iron and steel scrap. Several Pennsylvania consumers have bought steel scrap from the New England district, averaging about $11.25 shipping point. One lot of several hundred tons shipped to Steubenville, O., brought $12 shipping point and $18.50 delivered. A Massachusetts foundry took 200 tons of textile scrap at $19.50 delivered. The General Electric Co. at Lynn, Mass., disposed of a round tonnage No. 1, cast at $18 on cars. Borings and turnings are in better demand with prices up about 50 cents.

New York, July 7.—Hand-to-mouth buying characterizes the trading in iron and steel scrap. Mixed borings and turnings, heavy melting steel and cast iron borings are the most active grades. A consumer at Pottsville, Pa. is buying fair quantities of steel at $16.50 delivered. Prices generally are firm with stove plate up 50 cents a ton, holding at $10.50 to $11.50, New York, and car wheels off $1, at $13 to $14.

Pittsburgh, July 7.—Listlessness and inactivity continues to characterize the scrap market, with no buying by dealers or consumers. The Pennsylvania railroad is understood to have obtained $18.25 Warren, O., for the heavy melting steel on its last list and about $1 less for the rails. The market on steel cannot be quoted above $17 to $17.50, with nearby users unwilling to pay more than $16 or $16.50. Steel axles are somewhat weaker and while scarce cannot be sold at more than $20.50 or $21. Low phosphorus punchings also are down $1 to $19.50 to $20 a similar decline being registered in axle turnings now quoted at $15.50 to $16.

Buffalo, July 7.—The Gould Coupler Co. is reported to have purchased 2000 tons of heavy melting steel at $17.50, Depew. Dealers value heavy melting steel around $16.50. One of the largest consumers in the Buffalo district will take no shipments in July because of reconstruction activities. There is an open offer of $15.25, East Buffalo, for stove plate and turnings and borings are moving.

Sheets

Sheet Manufacturers Take Firmer Attitude—Business Continues of Prompt Character

FEWER sheet manufacturers are seeking business at a sacrifice of price, and a firmer tone prevails in the market. Some companies now are holding for 2.30c, valley, on blue annealed, 3.15c on black and 4.20c on galvanized, and report regular customers are ordering sufficient at these prices to maintain mill operations at 60 per cent. Lower prices still are obtainable.

SHEET PRICES, PAGE 88

Pittsburgh, July 7.—Progress made toward price stabilization in the sheet trade this week, is pleasing not alone to the sheet manufacturers but to the jobbers and users as well. It is becoming difficult to locate cut prices and as a result more orders are being placed at 3.20c and 3.25c in black, although 3.10c and 3.15c have not entirely disappeared. One important producer here states yesterday morning's order mail was the largest in months, involving several thousand tons, although the largest individual order did not exceed 450 tons. A Wheeling, W. Va., barrelmaker, claiming to have a 3.10c quotation, has placed a tonnage at 3.15c. Sheet shipments for the first half this year, exceeded the same period a year ago, for some of the large makers by between 10 and 15 per cent. Some attractive blue annealed sheet business is noted at 2.30c minimum; some smaller orders at 2.40c and one nearby buyer paid on the basis of 2.45c, Pittsburgh for 50 tons. More galvanized sheet makers have joined the group now demanding a 4.20c minimum. Others will not go below 4.25c and report that some few orders are coming in. The market on full finished is 4.25c and some pleasing tonnages are finding their way to the sheetmakers' books.

Boston, July 7.—Some third quarter buying of galvanized sheets is reported, but prices are soft and inquiry light. Black sheets are 3.05c to 3.10c and galvanized 4.10c to 4.15c, Pittsburgh.

New York, July 7.—Sheet business is comprised mainly of orders for early shipment; buyers hesitating while the market is shaded. Black sheets are

3.10c to 3.15c, Pittsburgh; blue annealed 2.20c to 2.30c, and galvanized 4.15c to 4.20c.

Buffalo, July 7.—Lower sheet prices have reappeared in the district, 3.15c on black and 4.20c on galvanized. Some good size lots have been sold to automobile manufacturers and most consumers are covering their third quarter requirements. Bookings of the past two weeks exceed those of any other recent period.

Youngstown, O., July 7.—Consumers of sheets are continuing their policy of hand-to-mouth buying. Mill operation appears to hold up well under the existing trade conditions although practically no tonnage is finding its way onto the books. While prices in some districts are unsteady, the number of producers meeting competitive prices is declining. Sales representatives of certain companies have been advised to quote blue annealed at 2.30c, black at 3.15c and galvanized at 4.20c. Regular customers are ordering at these prices and in sufficient tonnage to afford 60 per cent operations. Little forward buying is being done by the automotive trade but present requirements are occupying at least 75 per cent of capacity devoted to the output of this grade. The price 4.25c is firm. District operation this week is at 62 per cent.

Chicago, July 7.—Weather conditions make sheet mill operations in excess of 60 per cent impossible and this about fits in with current demand. Occasional low-price forays by eastern makers continue to make the market unsettled, although a local interest claims to detect some slight strengthening. In Chicago proper the minimums are said to be 3.35c on black sheets, 4.40c on galvanized and 2.45c on blue annealed.

Strip Steel

Cold Rolled Prices Are Firmer—Flow of Orders Better

STRIP PRICES, PAGE 88

Pittsburgh, July 7.—During the past two weeks, demand for strip steel both hot and cold has improved greatly. While some makers of cold have not succeeded in establishing a 4.00c price, the 3.75c figure now is absolutely minimum. Some are quoting 3.85c and even 4.00c on inquiries as they now develop. The price on hot is unchanged at 2.20c; 2.40c on the narrow sizes. Orders are coming from different consuming lines giving the industry more health than it has had in some time. The automotive industry continues in the lead. Strip mills average 65 and in some cases 70 per cent, although those making cold strips exclusively are much lower around 40 or 50 per cent.

Increases Steel Output

Steel capacity is being increased about ten per cent at the Trumbull Steel Co., Warren, O., by the installation of two 125-ton mixer cars which will handle and store hot metal for use in its open-hearth plant. Foundations for an additional open-hearth furnace are being prepared which will increase the company's complement to eight 100-tons units. Experiments are being made with a new type sheet and pair furnace in the company's black plate department. Two furnaces are under construction and if found successful the 29 hot tin mills of the company will be equipped completely.

Metal Protection Co., Cleveland, has increased its capitalization from 1000 to 1250 shares of stock.

Pipe

Mill Business Is Large—Few Line Pipe Projects Active—Cast Grades Moving Well

LACKING large inquiries and orders, the pipe market is featureless but the continuing tonnage in the aggregate is large. June business for some mills was the largest in history. Producers average from 65 to 85 per cent in operation. A 40-mile, 10-inch line will require about 4000 tons. Cast iron pipe buying is fair. Prices are steadier.

PIPE PRICES, PAGE 88 AND 122

Pittsburgh, July 7.—Features are absent from the tubular goods market, although in the aggregate the tonnage being received by each of several mills is large. With some mills, June business was the largest in history. Numerous independent producers are averaging 85 per cent in operations but the National Tube Co., is operating about 65 or 70 per cent of its pipe furnaces. All mills report an accumulation of relatively small orders with an occasional large tonnage. No large line pipe inquiries are up but some talk is going around of a line in South America to parallel the one of the Andean Corp. there which required 40,000 to 50,000 tons.

Boston, July 7.—Buying of cast iron pipe has eased off after several weeks of activity. Much new work is in prospect. Lawrence Water Works, Lawrence, Mass., is in the market for 4, 6, and 8 inch pipe. Biddeford, Me., recently purchased three miles of 8-inch pipe for the Old Orchard Water Co. Prices are unchanged.

Chicago, July 7.—The cast iron pipe market approximates $40, Birmingham. The National Cast Iron Pipe Co. was low on 2000 tons of 6 and 12-inch at Milwaukee yesterday with a bid of $39.75, Birmingham; other makers bid $40. The United States Cast Iron Pipe & Foundry Co. has been awarded 1200 tons of 8-inch by Chicago at $40, Birmingham. Some makers are booking more pipe than they are shipping. The delivered Chicago range on pipe 6 inches and over is $48.20 to $49.20.

A cement company in the southern part of California is in the market for 2000 tons of line pipe for a 10-inch, 40-mile line.

Birmingham, Ala., July 6.—A few lettings are being received by Southern cast iron pressure pipe makers. Production is steady and shipments equal to the make. Quotations range between $39 and $40 on the 6-inch and over pipe. Specifications in sight warrant statement that remainder of year will see continued activity in production and shipment of pipe.

CONTRACTS PLACED

6200 tons, part of 15,000-ton award of Greenville, S. C., noted placed in last week's issue, to Standard Cast Iron Pipe & Foundry Co., instead of 5500 tons to the Standard Foundry & Engineering Co. as listed.

1200 tons, Chicago, to United States Cast Iron Pipe & Foundry Co.

CONTRACTS PENDING

2000 tons, Milwaukee, bids July 6; National Cast Iron Pipe Co. low bidder.

1500 tons, filtration plant work for Providence Water Works system, Providence, R. I.; bids being taken.

550 tons, 12-inch class C pipe for Los Angeles; Spec. 766-D; bids in.

300 tons, Portland Water Works, Portland, Me.; pending.

Tin Plate

July Shipments Exceeding June's—Specifications Good

TIN PLATE PRICES, PAGE 88

Pittsburgh, July 7.—From present appearances July shipments of tin plate will equal or exceed by a trifle those of June. Prominent canmakers have specified for July as much as or a little more than they did for June and June was a heavy month. For some of the prominent tin plate producers the first half of this year saw tin plate shipments exceeding those for the first half of 1924 by about 13 per cent. All crop reports are favorable, and undoubtedly the vegetable pack will be a record breaker and the fruit pack will be equal to any of the past. The market price of $5.50 is unchanged. From time to time

some export business develops but it is small. Operations average 85 per cent.

Bolts, Nuts, Rivets

Numerous Third Quarter Contracts Are Closed—Prices Show Spread

NUT AND BOLT PRICES, PAGE 88

Pittsburgh, July 7.—Little change has come over the nut, bolt and rivet market in the past month or so. The shipping rate has been practically steady during that time. Third quarter contracts are being signed on the basis of 50, 10 and 10 off for large machine bolts. Rivet business lately has been taken at 2.40c in single carloads; some quote 2.50c on small amounts. The Reading Co. is in the market for a quantity of rivets. One eastern buyer closed on a small quantity at 2.35c but the lowest figure here is 2.40c.

Cleveland, July 7.—Bolts and nuts continue to move at a steady pace. Individual orders are small but the total represents a good volume of business. Prices are firm. Rivets are weak and makers are naming low prices in order to obtain business. The leading producer here, however, continues to quote 2.60c, Pittsburgh and is not shading that figure.

Chicago, July 7.—Practically all third quarter contracts for bolts and nuts have been closed, according to makers. Some mills were down over July 4 for inventory but are expected to resume this week. Implement makers are pressing for bolts and nuts for repair work but the aggregate is not large. Prices are said to be holding on the basis of 50, 10 and 10 off for large machine bolts.

Iron Ore

Small Tonnages Only Figure In Market—Shipments Show Increase

Cleveland, July 7.—Demand for Lake Superior iron ore continues restricted to small tonnages, at unchanged prices. More ore is going forward than last year.

Lake Superior iron ore shipments by lake in June totaled 7,958,486 tons an increase of 374,560 tons over the amount shipped in the month, 1924. The total tonnage moved to July 1 is 18,393,185 tons, 3,566,057 tons more than in the same period last year.

The British Empire Steel Corp., has closed down its rail mill; blooming and billet mills; blast furnace and open hearth furnaces at Sydney, N. S. The rod and wire mill will continue to operate on a four-day-a-week basis. Some 800 men are affected by this move. Slack orders was the reason given for the cutting down of operations.

Bars

Bookings During First Half 25 Per Cent Over Period of 1924—Demand Still Active

STEEL bar tonnage booked by makers in the Chicago district during the first half of the year exceeded by almost 25 per cent the business in the same period of 1924. Manufacturers in the Pittsburgh district report an increase in contracts. Active building operations and railroad requirement are keeping up trade volume. Soft steel bars are 2.00c Pittsburgh and 2.10c, Chicago.

BAR PRICES, PAGE 88

Chicago, July 7.—Unusual activity in the building industry, pressing needs of some of the larger railroads for material and the depleted condition of the stocks of most consumers combine to maintain fair demand for soft steel bars. Business in soft steel bars in the Chicago district in June was heavier than in May. The first half of 1925 showed a gain of almost 25 per cent in bookings over the first half of 1924. Both sales and specifications last week exceeded the previous week. Bars are quoted at 2.10c, Chicago. Most business in bar iron is being taken at 2.00c, with 2.10c obtained occasionally. Bar iron backlogs are down to three weeks. Rail steel is weak at 2.00c, Chicago.

Boston, July 7.—Steel bar prices are firm at 2.00c, Pittsburgh, or 2.365c Boston. Sales are well sustained. Inquiry shows slight improvement.

Pittsburgh, July 7.—Additional third quarter contracts for merchant steel bars have been taken and in each case the 2.00c, Pittsburgh, has been obtained. Specifications against contracts involve small amounts, prompt deliveries being available. Cold finishers along with other users are taking fair quantities for the automotive trade but representative orders from other lines only involve 15 to 25 tons apiece. Producers of steel report that little or no pressure is being brought to bear upon them to obtain lower figures. June shipments in some cases doubled those of May. Refined iron bars are firm as to price with 3.00c the starting point. All orders are small.

Cleveland, July 7.—Specifications show a slight tendency toward increasing but in the main the situation is little changed. A considerable number of third quarter contracts have been closed and there is little activity in this line at present. Bookings for the first half by important mill representatives in this territory run from 30 to 35 per cent over the same period one year ago. Prices are steady at 2.19c, Cleveland or 2.00c, Pittsburgh although there are reports in contiguous territory that some shading up to $2 has been done.

Reporting net earnings, of $1,174,198.05 for the first six months' operation of the current year, G. M. Williams, president of the Nordyke & Marmon Co., Indianapolis, builder of automobiles and milling machinery, predicted excellent production during the remainder of 1925. His report shows an increase in shipments during the last six months of 99.04 per cent over the corresponding period of 1924.

Cold Finished Steel

Some Contracts Taken at 2.50c—Specifications Are Only Fair

Pittsburgh, July 7.—Some contracts for cold-finished bars have been taken at 2.50c, as against the open market quotation of 2.60c. Most of the current business and other contracts carry the 2.60c price. Some sellers have quoted the 2.50 price to those already covered at 2.60c. Specifications against contracts only are fair; real activity in connection with third quarter protections not being expected before early August.

Hoops and Bands

Automotive Demand Outranks All Others—Prices Are Holding

HOOP PRICES, PAGE 88

Pittsburgh, July 7.—From the automotive industry the hoop and band makers continue to draw the most of their orders and while these are mostly for small amounts, they are sufficiently numerous and are placed sufficiently often to make up attractive tonnages by the week. The price continues to be 2.40c.

Firm Incorporates

The Kilborn & Bishop Co., New Haven, Conn. which has been a copartnership, announces that it has sold its entire assets and liabilities to the Kilborn & Bishop Co., a corporation. The change is one of the type of organization only, the business remaining unchanged. The new organization has elected the following officers: President George A. Kilborn, Secretary M. K. Woodruff, Treasurer Holloway Kilborn, General Manager H. G. Williams.

Illinois Metal & Refining Co., Chicago, has been dissolved.

The Market Section

Structural Shapes

Buying Drops Under Level of Previous Weeks—Inquiries Continue Active—Prices Show Some Stiffening

ALTHOUGH buying of structural shapes is restricted, compared to activity of the preceding few weeks, awards are heavy for the season. Inquiry is not encouraging, despite scattered projects involving good tonnages.

The Erie railroad pier at Jersey City, N. J., features new work, taking 7000 tons. Another section of a New York subway involves 6300 tons. A hospital at Philadelphia requires 3000 tons. Fabricated and erected material prices reflect poor bookings in some quarters. Plain material prices generally have settled to a 2.00c, Pittsburgh equivalent which holds firm as the minimum. Some 2.10c tonnage still is being booked but this applies mostly to undesired lots or from occasional customers.

STRUCTURAL SHAPE PRICES, PAGE 88

New York, July 7.—Structural buying is restricted but inquiry is active. Predominating new work is 7000 tons for the Erie railroad pier at Jersey City, N. J. Fabricated material prices are showing little tendency to advance. Plain material on the general run of business is 2.00c Pittsburgh with concessions on sizable business.

Philadelphia, July 7.—Buying of structural shapes is slack and inquiry is not promising for the near future. The bulk of shape business is going at 2.00c, Pittsburgh, although 1.85c still is possible. Featuring inquiry is 3000 tons for the general hospital here.

Boston, July 7.—Structural shape prices definitely have advanced to 2.00c at Boston in the face of a slight decline in total sales due partly to the holiday. New work continues in good volume.

Pittsburgh, July 7.—Inquiries involving structural shapes keep up well, and fabricators' estimating departments are busy. Many of them are cutting prices on material fabricated and erected so that many jobs are taken either without profit or at a loss in order to give shops something to do. Plain material has not dipped below 2.00c, Pittsburgh. The largest inquiry up locally is the one for 3500 tons for a warehouse on Second avenue for the Gilmore Drug Co.

Cincinnati, July 7.—Fabricators for the most part are well booked with contracts for several months ahead and are not seriously concerned with the decline in new work. Small jobs continue to be let in fairly encouraging volume, but jobs involving larger tonnages are few. Bids will go in July 15 on the new plant of the *Cincinnati Enquirer* which will require 2500 tons. The price for mill shipment is from 2.00c to 2.10c Pittsburgh.

Cleveland, July 7.—Activity in structural shapes continues limited to small orders. No large tonnages have been closed recently. Inquiries also reflect seasonal lull. Plain material holds firm at 2.19c to 2.29c Cleveland or 2.00c to 2.10c, Pittsburgh, all but small lots taking the minimum.

Chicago, July 7.—The Great Northern railroad is inquiring for 4000 tons of structurals for ore dock work at Superior, Wis. A bascule bridge for which the city engineer of Chicago is taking bids requires 1600 tons. Structural awards in this district continue seasonably high and June bookings were slightly greater than those for May. The plain material quotation is 2.10c to 2.20c, Chicago.

Awards Compared

	Tons
Awards this week	18,254
Awards last week	29,784
Awards two weeks ago	45,384
Awards this week in 1924	9,749
Average weekly awards, June	39,917
Average weekly awards, 1925	33,424

CONTRACTS PLACED

2500 tons, apartment at Seventeenth and Locust streets, Philadelphia, to New York Shipbuilding Co.

1300 tons, approaches for mid-Hudson bridge at Poughkeepsie, N. Y., 700 tons to American Bridge Co., 500 tons to Bethlehem Steel Co. and 100 to unstated fabricator.

1300 tons, bridge at Hackensack, N. J., formally awarded American Bridge Co.

1292 tons, annex to Rice hotel, Houston, Tex., to Pennsylvania Car Co.

1200 tons, Real Estate Board building, East Forty-second street, New York, to Hedden Iron Construction Co.

1100 tons, Wadsworth building, Cedar and Williams street, New York, placed, award reported going to McClintic-Marshall Co.

800 tons, brass foundry at Linhart, Pa., for the Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., to the American Bridge Co.

800 tons, transmission towers, Georgia Railway & Power Co., Atlanta, Ga., to the American Bridge Co.

600 tons, railroad bridge at Old Fort, O., for Nickel Plate railroad, to Bethlehem Steel Co.

600 tons, Bentley garage, Toledo, O., to American Bridge Co.

536 tons, headframe and idler stands for Castile Mining Co., Ramsay, Mich., to Worden-Allen Co.

525 tons, the John Harris high school, Harrisburg, Pa., to the Jones & Laughlin Steel Corp.

500 tons, hospital, East Orange, N. J., to American Bridge Co.

500 tons, auditorium for University of Nebraska, Lincoln, Neb., to Standard Bridge Co.

500 tons, court house, Mineola, Long Island, N. Y., to McClintic-Marshall Co.

480 tons, buildings for Bessemer Gas Engine Co., Grove City, Pa., to unstated fabricator.

450 tons, Rock Island railroad bridge at Ninety-first street, Chicago, to McClintic-Marshall Co.

410 tons, factory building at Detroit for Stephens-Adamson Co., Aurora, Ill., to unstated fabricator.

350 tons, school, Staten Island, New York, to Hedden Iron Construction Co.

320 tons, buildings for Union Tank Car Co., Whiting, Ind., to McClintic-Marshall Co.

300 tons, theater, Atlantic City, N. J., to New York Shipbuilding Co.

270 tons, Reading railroad bridge near Pottsville, Pa., to Bethlehem Steel Co.

260 tons, Radnor high school, Philadelphia, to McClintic-Marshall Co.

200 tons, bridge for Chesapeake & Ohio railroad, to unnamed fabricator.

174 tons, Burnstine garage, Chicago, to unstated fabricator.

150 tons, bridge work for Maine Central railroad, to independent fabricator.

145 tons, apartment, Ellis and Hyde streets, San Francisco, to Central Iron Works.

112 tons, bank building for Home Bank & Trust Co., Chicago, to Hansell-Elcock Co.

100 tons, bridge, for the Nashville, Chattanooga & St. Louis railway to McClintic-Marshall Co.

100 tons, service station for International Harvester Co., Cincinnati, to Massillon Bridge & Structural Co.

100 tons, miscellaneous work, including 50 tons from the W. F. Trimble Co., for a building for the Duquesne Light Co., Manchester, Pa., near Pittsburgh.

100 tons, garage, 143rd street and Lexington avenue, New York, to Glenmore Iron Works.

CONTRACTS PENDING

7000 tons, Erie railroad piers at Jersey City, N. J.; pending.

6300 tons, section 6, Central Park West subway, New York; pending.

3500 tons, warehouse for Gilmore Drug Co., Second avenue, Pittsburgh, J. F. Kuntz, Pittsburgh, architect; bids being taken.

3000 tons, two apartments for Dwight P. Robinson, Inc., Ninety-eighth street and Fifth avenue, New York; pending.

3000 tons, Charles Meyer apartment hotel, Fifty-sixth street and Seventh avenue, New York; pending.

3000 tons, general hospital, Philadelphia; pending.

2500 tons, building for *Cincinnati Enquirer*, Cincinnati; bids go in July 15.

2100 tons, Scottish Rite temple, Philadelphia; Geo. A. Fuller Co., New York, awarded general contract.

2000 tons, buildings for Duke university, Durham, S. C.; pending.

2000 tons, Holton street viaduct, Milwaukee; bids in.

1600 tons, bascule bridge for city of Chicago; pending.

1500 tons, building for Johns Hopkins university, Baltimore; pending.

900 tons, Y. W. C. A. on South Figueroa street, Los Angeles; Baker Iron Works low bidder.

880 tons, Mercantile Trust building, Berkeley, Calif.; bids postponed until July 7.

700 tons, garbage incinerator, Buffalo, N. Y.; general contract awarded to Hiler Engineering Co., New York.

700 tons, building in Penn avenue, Pittsburgh, for the Fullavtar Realty Co., Pittsburgh; bids being taken.

500 tons, factory for Lawrenceville Realty Co.,

Woodside, Long Island, N. Y.; opening of bids postponed for a week.
500 tons, storage house for New York Rapid Transit Co., Brooklyn, N. Y.; pending.
500 tons, building for the Auto Sales Garage Co., Pittsburgh; bids being compiled.
350 tons, Crooked river bridge, Terrebonne, Oreg.; bids rejected.
300 tons, B. F. Perkins Co. plant addition, Chicopee, Mass.; bids in.
200 tons, plant addition, Manomet Mills, New Bedford, Mass.; bids in.
200 tons, building for the Bloomfield Trust Co., Pittsburgh; bids being compiled.
200 tons, building for the East End Christian church, Pittsburgh; pending.
160 tons, building for Marblehead Lime Co., South Chicago, Ill.; pending.
145 tons, deck plate girder spans for Wabash railroad, Chicago; pending.
140 tons, Kenwood avenue substation of Commonwealth Edison Co., Chicago; pending.
116 tons, bridge at San Jose avenue, San Francisco; bids in July 22.
110 tons, highway bridge at North Adams, Mass.; general contract let to G. Stebbins.

Concrete Bars

Outlook Better Than Bookings as Large Projects Appear—Awards Small

SMALL tonnage lots continue to constitute activity in the concrete bar market. Prospects for future business appear more encouraging with many projects nearing the closing stage. A Pittsburgh maker has come into the market with a price $1 a ton under the previous market or at 1.95c and booked a large tonnage at that level. Other prices generally are firmer.

REINFORCING BAR PRICES, PAGE 88

Chicago, July 7.—Though inquiry for reinforcing bars continues fairly active and small lot business is being booked steadily to a considerable aggregate, larger projects are slow to close at this time. Independence Day holidays are considered the cause of much slackness. The price remains steady at 2.60c, Chicago store.

Boston, July 7.—Inquiry shows improvement but prices have not taken the predicted advance due to offers of foreign bars at 2.20c on cars Boston. The bulk of sales are at 1.90c Pittsburgh or 2.265c delivered for mill shipment and 2.75c to 2.85c Boston warehouse.

Buffalo, July 7.—The nearby outlook for reinforcing bar business is good. Prices are exceptionally firm, 2.265c, Buffalo, being quoted on bars from mills and 2.75c on stock shipments.

Pittsburgh, July 7.—Fairly attactive tonnages have been closed up in this territory in the past two weeks on reinforcing concrete bars. While the market has held generally at 2.00c, one case is known where 1.95c took the business. The largest order for the week involves 700 tons for the Hudson-Essex Motor Co., agency building, owned by the Pierpont Motor Co. Attractive inquiries are coming out in greater number.

Cleveland, July 7.—Small tonnage is moving in concrete bars. Several large projects are up, but closing action is slow in materializing. New billet bars are firmer at 2.19c to 2.30c, Cleveland, one interest booking a good lot last week at the full price. Rail steel bars are 1.80c to 1.90c, mill. New billet bars from stock continue 2.85c to 3.10c Cleveland.

Cincinnati, July 7.—Little activity was displayed during the past week in demand for reinforcing bars. No large inquiries were brought out. Awards were confined to small tonnages. The price on new billet bars ranges from 2.00c to 2.10c Pittsburgh, while rail steel bars are quoted 1.95c Marion, O.

Awards Compared

	Tons
Awards this week	4,435
Awards last week	6,595
Awards two weeks ago	3,417
Awards this week in 1924	4,110
Average weekly awards, June	7,655
Average weekly awards, 1925	6,563

CONTRACTS PLACED

700 tons, Hudson-Essex Motor Co., agency building, owned by the Pierpont Motor Co., Pittsburgh, to the Concrete Steel Co.
500 tons, garage on Cambridge street, Boston, to Portland Rolling Mills.
500 tons, reservoir at Madison, Wis., to Truscon Steel Co.
450 tons, Sanderson-Porter Co., Cheat Haven, Pa., to the Jones & Laughlin Steel Corp., through John F. Casey Co., general contractor.
425 tons, Duquesne Light Co., Colfax, Pa., to the Jones & Laughlin Steel Corp.
300 tons, elevator addition, Buffalo, N. Y., to unnamed fabricator.
210 tons, Russell apartment, Detroit, to McRae Steel Co.
200 tons, office building, Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., to the Carlem Engineering Co.
200 tons, annex to the Ruskin apartment, Pittsburgh, to the Carlem Engineering Co.
200 tons, Guardian Aged home, Joliet, Ill., to American System of Reinforcing.
150 tons, rail steel, Edward Coles public school, Chicago, to Calumet Steel Co.
150 tons, rail steel, Nathan Hale public school, Chicago, to Calumet Steel Co.
130 tons, wire mesh, two reservoirs for Shell Oil Co. at Martinez, Calif.; general contract to Bent Bros. Steel to unnamed interest.
120 tons, bridge at Old Fort, O., for Nickel Plate railroad, to Bourne-Fuller Co.
100 tons, Y. M. C. A., Montclair, N. J., to Fireproof Products Corp.
100 tons, work for American Gas & Electric Co., New York, to Joseph T. Ryerson & Son, Inc.

CONTRACTS PENDING

1900 tons, two buildings for Downtown Garages, Inc., Pittsburgh; general contract understood awarded the Mellon-Stuart Co.
300 tons, addition to Ralston-Purina feed mill, Buffalo, N. Y.; contract to be awarded this week.
150 to 200 tons, building for *Cincinnati Enquirer*, Cincinnati; pending.
150 tons, Union railroad station, East Pittsburgh; bids being taken.
150 tons, Masonic Temple building, Dayton, O.; general contract awarded Blagg Construction Co.
100 tons, garbage incinerator, Buffalo, N. Y.; general contract awarded to Hiler Engineering Co., New York.
100 tons, Whitehill-Gleason Motor Co. building, Pittsburgh; bids being taken.
100 tons, addition to Columbia mills, Minetto N. Y.; pending.
100 tons, work for J. W. Smith, New York; pending.

Furniture Sales Gain

Washington, July 7.—Steel furniture shipments and sales in May gained over those of April, according to data just released by the department of commerce. These figures are based on returns from 30 companies in the business group and 13 manufacturers of shelving. This inaugurates the compilation of shelving and replaces the data on the business group formerly published, based on returns from 22 companies. Totals of 1919 to 1924 are based on the old statistics.

1919	$10,895,203
1920	17,669,303
1921	14,327,830
1922	12,928,026
1923	16,834,029
1924	17,381,252

	Business Group		
1924	Orders received	Shipments	Unfilled orders
September	$1,588,597	$1,517,620	$1,192,527
October	1,759,183	1,780,378	1,183,923
November	1,614,626	1,677,167	1,215,520
December	1,911,716	1,871,215	1,218,748
1925			
January	2,204,901	1,970,447	1,454,045
February	1,984,574	1,936,873	1,500,262
March	2,007,400	2,025,287	1,479,315
April	1,963,106	2,006,468	1,463,762
May	1,851,498	1,912,427	1,380,284
	Shelving		
1925			
March	$ 599,971	$ 533,669	$ 510,328
April	557,050	644,758	427,169
May	520,816	545,986	364,093

Building Thrives Best Under Open Shop

New York, July 7.—Jurisdictional disputes between unions in the construction industry are a menace which can best be combatted by the open shop, according to Charles B. King, vice president of the Marion Steam Shovel Co. and chairman of the open shop committee of the National Association of Manufacturers, in a statement today.

He classes building operations in 139 American cities during 1924 under three heads, where construction was conducted under closed shop, under 25-75 per cent open shop, and 75 per cent or over open shop.

The first class, covering building operations in 38 cities with a combined population of 6,649,653, under the closed shop shows the total value of the building permits to be $479,211,639, or a per capita of $72.10.

The second class considers operations in 40 cities with a combined population of 10,297,540, in which the building permits totaled 918,182,534, or $89.20 per capital.

Rails, Cars

Rail Market Resumes Activity —Equipment Orders Scattered —Accessory Buying Heavier

BUYING of rails has become more active, the largest inquiries including 46,500 tons for the Norfolk & Western and 15,000 tons for Cotton Belt. Equipment buying is featured by award of 357 passenger and baggage cars by the Pennsylvania. Locomotive sales are featured by foreign bookings of the Baldwin Locomotive Works. June car awards totaled 1835.

RAILROAD TRACK MATERIAL PRICES, PAGE 88

Pittsburgh, July 7.—Some of the recent activity in light rails has disappeared but small orders for 25 or 30 tons at a time continue to come in as needed in nearby Pennsylvania or West Virginia coal operations. New rails are unchanged at 1.70c. Rail steel light rails are $2 or $3 per ton less.

Orders for track accessories are small but numerous each week. Prices are unchanged: 2.80c standard spikes, 3.10c, small spikes and 2.35c for tie plates. The Reading Co. is in the market for rivets but so far as can be learned does not want any other track material. The demand for frog and switch material is maintained at a relatively high rate, makers reporting numerous sales and inquiries.

Boston, July 7.—The Maine Central and the Eastern Massachusetts Street railway are in the market for track material, but other than this the railroad situation in New England is quiet.

New York, July 7.—Featuring equipment orders is the award by the Pennsylvania of 357 passenger and baggage cars. The orders are divided 15 passenger cars, five passenger and mail cars, 10 baggage and mail and 222 baggage cars. The contract calls for fall delivery.

Locomotive orders include four mikado and four Pacific engines for the Siamese State railways, and six mikados for the Nitrate Railways of Chile to Baldwin Locomotive Works. Minneapolis & St. Paul is expected to buy 30 mikados and the Texas & Pacific has authorized purchase of 25.

Chicago, July 7.—The Cotton Belt railroad is in the market for 15,000 tons of rails and 15,000 kegs of spikes, most of which will probably come to Chicago district mills. The Norfolk & Western inquiry for 46,500 tons of rails is likely to be accompanied by the usual tonnage of track fastenings. A maker has booked 13,000 kegs of spikes and bolts for a western railroad.

Great Northern is in the market for 250 general service cars.

ORDERS PLACED

Pennsylvania railroad, 342 miscellaneous cars, 122 to American Car & Foundry Co., 70 to Standard Steel Car Co., 90 to Pressed Steel Car Co., 40 to Pullman Car & Mfg. Co., 20 to St. Louis Car Co., 15 yet to be placed.

Central of Georgia, 1000 box cars, to Illinois Car & Mfg. Co.

Othniel Hitch, Indianapolis attorney, has been named receiver for the Stevenson Gear Co., that city. He filed bond of $25,000. The receiver was authorized to negotiate loans not to exceed $5000 to be used as working capital in operation of the plant.

Appoint Furnace Agent

Pittsburgh, July 7.—Sharpsville Furnace Co., Sharpsville, Pa., has appointed Rogers Brown & Crocker Bros., Inc., exclusive sales agent on foundry, malleable, basic and bessemer iron. Its stack, banked since May 3, resumed making iron July 6. W. H. Price, sales manager of the Sharpsville company remains in that position supervising sales through the recently appointed agency which will sell this valley iron exclusively.

Autometal Corp., Buffalo, N. Y., has increased its capital from 2500 shares to 1000 shares $100 par and 2500 shares no value common.

Wire

Market Fairly Active, With Stocks Low—Demand for Nails Less Active

DEMAND for wire and nails continues in good volume, jobbers and users stocks being low, and there being prospects of an expansion of business. Pittsburgh reports some decrease in sales of nails owing to a slackening tendency in building operations. It is reported an Ohio river interest is booking wire at 2.60c, but the more general price is 2.65c, Pittsburgh.

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Pittsburgh, July 7.—Despite a circulated report that a 2.60c, base was being named on nails by a West Virginia maker, local and nearby wire products makers are able to obtain fair specifications against 60-day contracts on nails at 2.65c, base. Nails are comparatively quiet, however, building operations having slackened perceptibly in several directions. Barbed wire and plain wire for fence, and to a certain extent manufacturers' wire, continue in good demand with wire unchanged on the 2.50c, base. While some are quoting a higher figure, cement-coated nails continue at 1.85c. Wire mill operations are no higher than 50 per cent on the average.

Boston, July 7.—The leading seller reports wire firm at 2.65c, Worcester, despite rumors of lower prices. Sales at 2.80c at Boston have been entered during the week. A sale of 1000 tons to a Massachusetts buyer is reported. Nails are dull.

Buffalo, July 7.—Buffalo wire mills have 75 per cent of their open hearths in operation and are working mills at 70 to 85 per cent of capacity. Demand is steady and representative of practically all classes of consumers. Competition for larger tonnage is keen.

Chicago, July 7.—Considering the season, demand for wire and nails is considered good. Jobbers' stocks are held to be so low that the expected replenishment may result in a spurt. Mill operations probably average 60 per cent. The range at western mills on plain wire is from 2.55c to 2.60c and on wire nails from 2.70c to 2.75c. The low on cement coated nails is said to be 1.90c, western mill.

New York, July 7.—The Texas Co. is inquiring for 1000 to 1500 kegs of nails. Whereas 2.60c, Pittsburgh was done recently, the market appears firm at 2.65c. Wire rods are in fair demand around $45, Pittsburgh.

Luxemburg Iron and Steel Output Steady

Brussel, June 29.—(*European Staff Service*)—Production of Luxemburg pig iron for May was 189,747 metric tons compared with 187,193 tons in April. Steel output for May was 167,137 metric tons, about the same as in the preceding month. The following table shows monthly production figures:

Mon. ave.	Pig iron	Steel ingots & castings
1925		
1913	212,320	110,500
1922	139,945	116,165
1923	177,220	100,100
1924	181,100	157,195
1925		
Jan.	197,430	170,856
Feb.	176,514	157,227
March	198,787	178,367
April	187,193	167,143
May	189,747	167,137

Nonferrous Metals

Metals Stronger, Especially Copper—Sales of Latter Active After Big Shipments in Second Quarter—Zinc Up a Little

Prices of the Week

	Copper: Electro delivered	Copper: Lake delivered	Copper: Casting refinery	Spot Tin, N. Y. Straits	Lead: New York	Lead: St. Louis East	St. Louis Zinc	Aluminum 98-99%	Antimony Spot	Nickel Ingot
	Cents per pound									
July 1	13.75	13.87½	13.17½	57.25	8.00	7.65	7.00	27.00	17.00	34.00
July 2	13.80	14.00	13.25	57.25	8.00	7.70	7.02½	27.00	17.00	34.00
July 3	13.87½	14.00	13.30	57.50	8.00	7.75	7.05	27.00	17.00	34.00
July 6	13.87½	14.00	13.30	57.50	8.05	7.82½	7.07½	27.00	18.25	34.00
July 7	13.90	14.05	13.37½	57.50	8.20	7.87½	7.10	27.00	18.50	34.00

NEW YORK, July 7.—A generally strong tone has prevailed in the nonferrous metal market during the past week, reflecting improved business sentiment as indicated in the stock market, also more favorable feeling abroad. Foreign buying of copper, lead and zinc has been more active and this buying has contributed to the strength.

Another contributing factor is the appearance of copper statistics, now becoming available, covering results for June and for the second quarter of the year, which show business to have been much more active and consumption of metals to have been much broader than realized currently. For example, preliminary copper estimates point to a reduction in refined copper stocks of 75,000,000 pounds during the second quarter, to an estimated total of 170,000,000 pounds as of July 1, the smallest stock on hand since the war. This reduction was due primarily to the heavy shipments for the quarter, believed to have been the largest in history, while production in the quarter remained practically the same as in the first quarter.

Copper.—The price of copper advanced ¼ cent over the low level established over the week previously, when resale lots were offered in Germany at concessions. Absorption of these lots and higher bid prices made by exporters in the *f.a.s.* market at New York, released the break on the domestic market and enabled the advance, which has been based largely on the prospective favorable statistics. Some of the larger agencies oversold their production in June, and others report they are continuing to ship more than they are producing. Lake copper and all other lines of copper and brass products and scrap which move in sympathy with electrolytic copper, as a base, reflected this same strong tone. Domestic sales of copper have been big.

Rolled and Drawn Products.—Official base prices of rolled and drawn products have been unchanged at the theoretical 13.75c electrolytic copper base, but the approach of copper toward 14.00c, leads to the belief that a change in the published prices may be forthcoming shortly. With a more buoyant tone to the copper market, inquiry for manufactured products has shown improvement, though this is normally the off-season of the year. Demand for automotive and building and electrical purposes has been well-maintained. The open market price for bare wire has stiffened about ⅛ cent, following the trend of copper, to 15.50c, base mill.

Zinc.—Higher prices have been reported both for slab zinc and for zinc ore. Prime western zinc sold at 7.10c E. St. Louis, for prompt July and August shipments. Exporters have been in the market actively. Demand from domestic galvanizers has been slack, reflecting the ragged position of the galvanized sheet market. Statistics for June will be published July 10 and are expected to show little, if any increase, in smelters' stocks. Ore sold July 3 in Joplin at $50 to $51.

Lead.—The American Smelting & Refining Co.'s official base price at 8.00c has about disappeared from the open market and metal sold by independent products at 8.20c New York. The price in the West also has been advanced with business done at 7.87½c.

Tin.—Due to small supplies of tin on hand, the spot market has continued to command a premium of 1 cent per pound over shipment metal, the quotation for spot has ranged between 57c and 57.50c the past week. World visible supplies fell 1100 tons in June.

Mill Products

Base prices cents per pound, f.o.b. mill

SHEETS	
High brass	18.12½
Copper, hot rolled	21.75
Zinc, ga. 9 to 18 (plate ½c less)	10.00
Lead full sheets (cut ¼c more)	11.00 to 11.25
Aluminum, bright flat, up to 10 gage	37.50
SEAMLESS TUBES	
High brass	22.75
Copper	23.75
RODS	
High brass, (round ⅝ to 2½-inch)	15.87½
Naval brass	18.62½
WIRE	
Copper	15.12½-16.00
High brass	18.62½

Old Metals

Dealers' buying prices cents per pound

HEAVY RED BRASS	
New York	8.50
Chicago	9.00 to 9.25
Cleveland	9.00 to 9.25
HEAVY YELLOW BRASS	
New York	6.75
Chicago	7.50 to 7.75
Cleveland	7.00 to 7.25
ZINC	
New York	4.00
Cleveland	4.25 to 4.50
HEAVY COPPER AND WIRE	
New York	11.00
Chicago	11.00
Cleveland	11.00
RED BRASS TURNINGS	
New York	8.00
Chicago	8.50 to 8.75
Cleveland	8.25
YELLOW BRASS TUBING	
Cleveland	7.50
NO. 1 BRASS ROD TURNINGS	
New York	7.75
Chicago	8.00 to 8.25
Cleveland	7.50 to 7.75
LIGHT COPPER	
New York	9.25
Chicago	9.75 to 10.00
Cleveland	9.25 to 9.50
LIGHT BRASS	
Chicago	6.50 to 7.00
Clippings, Chicago	9.25 to 9.50
ALUMINUM	
Borings, Cleveland	12.00 to 13.00
Old sheet and cast, Cleveland	18.00 to 18.50
Clippings, Cleveland	21.00

Secondary Metals

Remelt aluminum No. 12	22.50
Brass ingot 85-5-5-5	10.75 to 11.00

Coke By-Products

Sulphate Prices Lower—Distillates More Active

New York, July 7.—Sulphate of ammonia is selling around $2.30 to $2.35 works in double bags, a drop of about five points in a week or so. Contract buying is going ahead in fair volumes. On the few scattered lots of sulphate for export, prices continue to hold around $2.45 to $2.50 port, for material in double bags.

Demand for distillates, the benzols and solvent naphtha in particular, remains active with prices firm. Pure benzol is quoted at 25 cents works in carload lots in tanks and 30 cents in drums, and 90 per cent at 24 cents in tanks and 29 cents in drums. Solvent naphtha is holding at 25 cents in tanks and 30 cents in drums and commercial xylol and toluol at 26 cents in tanks and 31 cents in drums.

Naphthalene is featureless. Demand is slack, with prices unchanged at 7½ cents works for balls and 6½ cents for flakes. Phenol is quoted at 27 cents warehouse for spot and 25 cents works for futures.

Coke Oven By-Products

Per Gallon at Producers' Plants in Tank Lots	Spot	Contract
Pure benzol	$0.25	
Toluol	0.26	
Solvent naphtha	0.25	
Commercial xylol	0.26	
Per Pound at Producers' Plants		
Phenol	0.27	$0.25
Naphthalene flakes	0.06½	0.06½
Naphthalene balls	0.07½	0.07½
Per 100 Pounds at Producers' Plants		
Sulphate of ammonia	$2.32½	

Coast Sales Are Lighter

Less Activity Noted in Most Products—Prices Continue Firm—Building Material Demand Lessens

By Air Mail

SAN FRANCISCO, July 3.—Buying of steel products in the coast markets has been lighter than for any other week this year, only four awards involving over 100 tons of material having been placed. On the whole prices are firmer. The first half of the year did not come up to expectations, but better business is looked for during the last half and prices, it is thought, will attain a higher average.

Coast Pig Iron Prices

No. 2 Columbia, San Francisco..	27.00 to 28.00
No. 2 Columbia, Los Angeles	27.00 to 28.00
No. 2 Columbia, Portland	27.50 to 28.50
No. 2 Columbia, Seattle	27.50 to 28.50
Columbia basic delivered	27.00 to 28.00
*Dutch (2.75 to 3.25)	25.00
*Indian iron	25.50
*Belgian (2.75 to 3.25)	26.00
*English iron (2.50 to 3.00)	27.00 to 27.50
*English iron (2.50 to 3.00)	27.50 to 28.00
*English (3.00 to 4.00)	28.00 to 28.50

*C.I.F. duty paid, coast ports.

Building permits issued in San Francisco in June totaled $4,661,024 bringing the total for the fiscal year ending June 30, to $58,912,944, the highest in the history of the city, as compared with the former high record of $48,803,557 for the fiscal year ending June 30, 1924.

Pig Iron and Coke

While some foundries are operating at 75 per cent the majority are on a 50 per cent basis. Prices on Columbia iron have eased off slightly and $27 to $28 f.o.b. San Francisco is now being quoted on No. 2 foundry. An inquiry is out for about 300 tons of malleable iron.

Bars, Plates and Shapes

For the first time in many weeks not a single award of over 100 tons for concrete bars is noted, 130 tons of wire mesh for two reservoirs being the only reinforcing material placed. Pending business is of fair proportions. Prices on stock material are by no means firm at the 3.80c l. c. l. level. The San Joaquin Light & Power Co. at Fresno has placed 150 tons of Swedish drill steel with the Ingersoll-Rand Co.

Plate awards this week included but two projects, the Steel Tank & Pipe Co. obtaining 100 tons for stills for the Shell Oil Co. and Oakland placing with the Pacific Coast Engineering Co. an order for a year's requirement of dredge pipe involving a minimum of 125 tons. The Southern Pacific Equipment Co. will open bids July 13 for about 3000 tons of plates and shapes for 500 box cars to be built at their Sacramento shops. Prices in this district continue firm at 2.40c c.i.f. on large lots although rumors of a 2.35c prevail. It is reported, but could not be confirmed, that a 2.20c price had been named in the Seattle district.

Little structural business was booked last week. Total awards for the first six months of the year, as reported in IRON TRADE REVIEW each week, amounted to over 75,000 tons as compared with 45,000 tons for the first six months of 1924. The minimum price continues at 2.40c c.i.f. with 2.45c applying on the ordinary run.

Other Finished Material

The low prices that recently appeared in the sheet market, when 4.00c base Pittsburgh on galvanized material was quoted by several mills, have disappeared and practically all the eastern mills now are refusing to quote below 4.20c. Black continues obtainable at 3.15c to 3.20c base and blue annealed ranges from 2.30 to 2.40c. It is understood that galvanized material for a Los Angeles distributor, reported last week, involved 900 tons of corrugated and 100 tons of flat instead of 750 tons of corrugated. The Columbia Steel Corp. secured 500 tons of one pass black sheets from B. W. Norton & Co. of Oakland who was awarded the general contract for the California 1926 licence plates and the Pacific Sheet Steel Co. secured 500 tons of one pass black for the Texas licenses plates, the general contract for which was awarded to the Kittle Mfg. Co. of Los Angeles.

Cast iron pipe prices have advanced about $2 a ton and $54 to $55 base delivered now represents the market on the coast.

Tubular mill representatives report improvement in the number of new inquiries being received, but buying continues light. A cement company in the southern part of the state has an inquiry out for 40 miles of 10-inch pipe involving about 4000 tons.

While the miscellaneous wire product prices are strong an unstable situation exists in the market for hard bright wire and bright nails. In the Los Angeles district it is reported that on a 5000-keg inquiry a price of 3.15c f.o.b. Los Angeles was named, equivalent to about 3.05c c.i.f. San Pedro.

Movement of out-of-stock material during June showed a slight improvement over May sales and July is starting off exceptionally well. Prices in the San Francisco district have been reduced as follows: Blue annealed from 4.20c to 3.70c; black sheets from 5.25c to 4.65c; 28 gage galvanized from 6.25c to 5.75c and nails, bright from 4.00c to 3.50c. In the Los Angeles district the following changes have occurred; bars, plates and shapes from 3.40c to 3.15c; black, blue annealed and galvanized sheets from 5.15c to 4.65c, 4.10c to 3.70c and 6.15c to 5.75c respectively, nails, bright from 4.00c to 3.75c and cement coated nails from 3.15c to 3.00c.

Northwest Remains Quiet

SEATTLE, July 3.—Aside from construction and improvement projects, business generally is quiet in the Pacific Northwest. This is true of iron and steel in which no decided improvement is expected for at least 60 days. Wholesalers in iron and steel report that June's business was less than May and there is no indication of any immediate buying movement.

Building continues at a fast pace throughout the Northwest while many large improvement jobs are under way. Seattle's building permits for June were $2,168,230 compared with $2,094,350 in the same month 1924.

Bars, Plates and Shapes

Reinforcing material continues in better demand than merchant bars, although the turnover of both is confined to small lots. The local mill has closed for 10 days for mid-season overhauling. The mill price of bars remains stationary at 2.55c. Local jobbers are holding at 3.25c, although in the Portland territory 2.85c is current, due to cutting because of active competition of foreign bars in that section.

Plates and shapes generally are quoted at 2.40c and 2.45c. Rumors of 2.35c for plates are heard but have not been confirmed. Demand for shapes is better than for plates, no large contracts involving plates being up for figures.

Finished Materials

Reduction of 25 cents per 100 pounds in the jobbing price of the three grades of sheets last week has resulted in no buying activity, the adjustment being in line with reductions by the mills. Light sheets are moving in larger volume than the heavier gages. Jobbers report a fair demand for building materials, bolts, rivets and light tank plates.

Old Materials

Steel scrap is steady at $10 to $10.50 gross, receipts about offsetting consumption. Cast iron scrap is lifeless, being quoted nominally at $18 gross, buyers reporting small lots purchased at $14 to $17, net ton, according to grade.

Suggest British Steel Subsidy

Government and Manufacturers Hope for Solution of Problem, Though Tariff Possibilities Are Given Up—Coal Mine Deadlock Continues—Belgian Mills Book 33,000 Tons of Rails for Export

European Headquarters,
IRON TRADE REVIEW,
2-3 Caxton House, Westminster, S. W.1

LONDON, July 7.—(*By Cable*)—British steelmakers realize there is little chance of obtaining tariff protection as they petitioned for, although specific state subsidies now are alluded to in the conversations with the government. A deadlock continues between the coal miners and operators over the wage agreement situation.

The British iron and steel market still is depressed, and a general reduction in prices is noted. Five blast furnaces have been blown out recently. Mills at Sheffield are receiving inquiries from India and Poland for railway material. Tin plate sales are unremunerative. Demand for centrifugally cast pipe is satisfactory.

Belgian steel manufacturers hope for an early settlement of the strike affecting them. Societe Anonyme des Acieries d'Angleur, has received an order for 11,000 tons of rails for Holland. Societe de la Providence has booked 20,000 tons of rails for South Africa.

A report from Paris states a limited Franco-German iron and steel agreement is an early possibility.

British Steel Prices Continue Downward

Office of IRON TRADE REVIEW,
Prince's Chambers, Corporation St.

BIRMINGHAM, Eng., June 29.—(*European Staff Service*)—Matters are becoming critical in the iron and steel trades. This week is notable for the number of unfavorable directors' reports published. Sheffield has become busier, some of the large naval orders having yielded fair engineering lines. Basic steel furnaces are only working at 25 per cent capacity, though the acid furnaces are somewhat busier, chiefly on home railway materials. The amount of constructional steel called for and the demand for general requirements, leaves little room for complaint, the chief deficiency being rail and shipbuilding orders. Prices of plates have

Sterling $4.86

weakened. They are sold in the Midland at £8 17s 6d ($43.13), but Midland engineers complain that they cannot compete with builders in Scotland able to buy at £8 10s ($41.31) delivered. Sections are also cheaper. There is general agreement that a fall in prices is inevitable, and the only way to a recovery of a competitive position in the international market.

The position of foreign exports to this country has become a little confused owing to a strike on the Continent, with the contrary influence of the further depreciation of the franc. The latter is responsible for the low quotations still being received, £5 7s ($26) f.o.b. Antwerp or Rotterdam being quoted for joists having a tensile test of 28 to 32 tons, with untested joists at 1s ($0.24)) less. Bars and angles are quoted £5 11s ($26.97) at the port, and siemens-martin mild steel ship plates £7 ($34.02) The effect of the strike is concentrated chiefly on the Charleroi district, which specializes on No. 3 nut and bolt iron, for which quotations are difficult to obtain. One maker, however, still quotes £6 16s ($33.04) delivered, making the Staffordshire figure of £11 7s 6d ($55.28) impossible and uneconomic, even when the superior quality is taken into ac-

(*Continued on Page* 109)

Current Iron and Steel Prices of Europe

Dollars at Rates of Exchange, July 6	*British* Gross Tons U. K. Ports		*French* Metric Tons Channel Ports		*Belgium and Luxemburg* Metric Tons Channel Ports		*German* Metric Tons Rotterdam or North Sea Port	
Export Prices f. o. b. Ship at Port of Despatch—By Cable								
PIG IRON	£ s d			Francs		Francs	£ s d	
Foundry No. 3, Silicon 2.50-3.00	$17.50	3 12 0*	$15.85	335	$15.48	330	$20.17	4 3 0
Basic	18.23	3 15 0	16.79	355	15.48	330	23.69	4 17 6
Basic-bessemer	20.05	4 2 6†	15.37	325	14.77	315	20.17	4 3 0
Hematite, Phosphorus 0.02-0.05	18.83	3 17 6	20.10	425	.....	...	24.30	5 0 0
SEMIFINISHED STEEL								
Billets	$27.95	5 15 0	$24.83	525	$24.86	530	$25.27	5 4 0
Wire rods	46.17	9 10 0	29.80	630	29.55	630	29.65	6 2 0
FINISHED STEEL								
Standard rails	$38.88	8 0 0	$22.47	475	$24.62	525	$31.59	6 10 0
Merchant bars	1.71c	7 17 6	1.20c	560	1.23c	580	1.29c	5 17 6
Structural shapes	1.63c	7 10 0	1.17c	545	1.18c	555	1.19c	5 8 0
Plates, ship, bridge and tank	1.74c	8 0 0	1.48c	690	1.47c	690	1.50c	6 16 0
Sheets, black, 24 gage	2.39c	11 0 0	2.58c	1,200	2.61c	1,230	3.09c	14 0 0
Sheets, galvanized, 24 gage, corrugated	3.47c	16 0 0	4.03c	1,875	4.85c	2,275	3.80c	17 5 0
Bands and strips	2.39c	11 0 0	1.46c	680	1.60c	750	1.60c	7 5 0
Plain wire, base	2.39c	11 0 0	1.96c	910	1.70c	800	1.84c	8 7 0
Galvanized wire, base	3.04c	14 0 0	2.60c	1,210	2.24c	1,050	2.13c	9 13 0
Wire nails, base	3.15c	14 10 0	2.15c	1,000	1.81c	850	2.20c	10 0 0
Tin plate, base box 108 pounds	$ 4.74	0 19 6	.....	...	.....	...	$ 6.80	1 8 0
Domestic Prices at Works or Furnace—Last Reported								Renten Marks
Foundry No. 3 Pig Iron, Silicon 2.50—3.00	$17.86	3 13 6	$16.32	345(2)	$16.18	345	$20.70	90
Basic pig iron	18.23	3 15 0	14.90	315(1)	15.17	335	22.43	97.50
Furnace coke	3.28	0 13 6	6.72	142	6.33	135	5.52	24
Billets	25.52	6 5 0	20.81	440	24.62	525	27.60	120
Standard rails	1.74c	8 0 0	1.14c	530	1.22c	575	1.48c	142
Merchant bars	1.74c	8 0 0	1.17c	545	1.19c	560	1.37c	131
Shapes	1.74c	8 0 0	1.08c	500	1.14c	535	1.36c	130
Plates, ship, bridge and tank	1.79c	8 5 0	1.66c	770	1.42c	665	1.45c	139
Sheets, black, 24 gage	2.39c	11 0 0	2.60c	1,210	2.29c	1,075	2.82c	270
Sheets, galvanized 24 gage, corrugated	3.53c	16 5 0	3.76c	1,750	4.90c	2,300	4.17c	400
Plain wire	2.39c	11 0 0	1.96c	910	1.70c	800	1.93c	185
Bands and Strips	2.39c	11 0 0	1.51c	700	1.60c	750	1.67c	160

*Middlesbrough; †Scotch foundry iron; (1) Basic-bessemer; (2) Longway. British export furnace coke £0 13s 0d ($3.16) f. o. b. Ferromanganese £15 10s 0d ($75.33) f. o. b. German ferromanganese £15 0s 0d ($72.90) f. o. b.

The equivalent prices in American currency are in dollars per ton for pig iron, coke, semi-finished steel and rails; finished steel is quoted in cents per pound and tin plate in dollars per box. British quotations are for basic open-hearth steel; French, Belgian, Luxemburg, and German are for basic-bessemer steel.

Machinery

Buying of Tools and Equipment Shows Slight Recession—Railroads Slow to Place Orders —Crane Buying Unusually Light

LARGELY as a result of the vacation season and the taking of midyear inventories, sales of machine tools and equipment is showing a falling off. In practically all territories, however, some dealers report a good volume of business while others find an almost total inactivity. Few outstanding sales are made anywhere, orders usually calling for but one or two tools. Even railroad buying has tapered off. No action has been taken by the Mobile & Ohio, Southern railway or Chicago, Milwaukee and St. Paul, but placing of the business is expected any time. Two New England railroads, Boston & Maine and New York, New Haven & Hartford are expected to come into the market for equipment this month. Buying by automobile manufacturers is good.

New York, July 7.—Machine tool buying has been light, reflecting partially the Fourth of July holiday. In no instance has there been any outstanding buying, or inquiry. Among scattered awards are a 44-inch sidehead boring mill, for Ford Motor Co., and a similar machine for the S. K. F. Ball Bearing Co. A 4-spindle mud ring drill has been purchased by Chicago, Rock Island & Pacific railroad and an 18-inch vertical crank slotter by Link-Belt Co., Indianapolis. Baltimore & Ohio has been the only railroad active in this district, its purchases involving several machines. Mobile & Ohio, expected to start buying last week, has as yet taken no action. As previously noted, this equipment will be purchased through the Southern Railway offices, Washington. International Motors Co. is a buyer of some miscellaneous machines for Plainfield, N. J., and its Long Island city service and repair station. Crane buying has been the slowest in sometime, this applying to overhead as well as locomotive cranes.

Chicago, July 7.—Little inquiry has been coming into the machine market, the most important being from the Chicago board of education which will open bids July 7 on four lathes for South Division high school and 12 small miscellaneous tools for the Carl Schurz school. The school board at Menominee, Wis., has bought a 14-inch lathe for use in the vocational school. Chicago, Milwaukee & St. Paul railroad has not closed on its former list but is understood to have bought a few used tools and has made further inquiry for about 15 pieces of equipment, including eight 3-foot radial drills. Burlington railroad list is still open.

Boston, July 7.—June sales of machine tools fell under the May level in New England. Inquiry at the moment, however, shows signs of renewed life. Boston & Albany railroad is in the market for a 6-foot radial drill, an upright lathe, and some other equipment for its West Springfield, Mass., plant. General Electric Co., Lynn, Mass., which for some time has had a list out covering six or eight hammers and some other equipment recently has closed for one hammer, and is expected to buy further in the near future. One hammer manufacturer has announced an advance in price from 15 to 20 per cent and a few scattered orders are being closed at the old level. Radio equipment manufacturers are increasing production and are in the market for several individual tools. Nearly all New England railroads have been considering tool purchases since early in the year without substantial buying, however. Now Boston & Maine and New York, New Haven & Hartford railroads are expected to close this month.

Pittsburgh, July 7.—Contrasts are plainly evident in the machine tool and equipment market this week. One or two dealers report fair activity, while others say they never had such a dull period, attributing the lack of selling to holiday celebrations and the taking of the midyear inventories. One sold a combination punch and shear to a West Virginia user and another sold three motor-driven lathes and four motor-driven grinders to two local and one out-of-town manufacturers. In addition to the Carnegie Steel Co's pending crane inquiries which are quite numerous, Youngstown Foundry & Machine Co., wants five and Bessemer Gas Engine Co., wants a few. Pennsylvania railroad will buy two locomotive cranes. Youngstown Sheet & Tube Co. is reported to have closed on 19 cranes with an Alliance, O., builder.

Cincinnati, July 7.—Railroad inquiries continue to hold the center of interest in the machine tool market here. During the week, Santa Fe railroad placed orders with a number of local manufacturers. Cincinnati Planer Co., received an order for a boring mill, while builders of shapers, radial drills, and planers also received orders, ranging from one to two tools. Milling machine builders are using more capacity than they have for many months, but still are far from capacity. Foundries are buying equipment to a fair extent, but large orders are not placed. Used machinery is moving at a fair rate and appears more in demand than new.

Cleveland, July 7.—Sales of machine tools and equipment showed some recession during the past week but the volume of inquiries indicates that the inactivity can not last long. Manufacturers continue operations at about the same rate as for some time past, although individual orders call for fewer machines. Warner & Swasey Co., has taken an order for nine small turret lathes for export to Prague, Czechoslovakia. Detroit still furnishes most of the activity for Cleveland dealers, the demand for special and high production machines being good. Packard Motor Car Co., Detroit, is in the market for saws, conveyors and a 4-ton electric traveling crane. Dealers handling both new and used tools, report better business in the latter.

CRANE ORDERS PLACED

Nineteen cranes, including eleven 15-ton, five 5-ton and three 10-ton cranes for Youngstown Sheet & Tube Co., Indiana Harbor, Ind., understood to have gone to Morgan Engineering Co.

Six 10-ton handpower hoists for Hudson avenue plant of Brooklyn Edison Co., to Wright Mfg. Co.

Two 20-ton cranes for Carnegie Steel Co., Homestead, Pa., to Morgan Engineering Co.; reported last week as one.

Among single orders were: 30-ton locomotive crane for Baltimore plant of Standard Oil Co. of New Jersey, to Browning Crane Co.; 6-ton crane trolley for F. R. Patch Co., Rutland, Vt., to an eastern builder.

CRANE ORDERS PENDING

Five cranes, including one 15-ton, one 10-ton, one 25-ton, and two 5-ton for Youngstown Foundry & Machine Co., Youngstown, O.

Three cranes for Bessemer Gas Engine Co., Grove City, Pa., including one 40-ton and one 25-ton.

Two locomotive cranes for Pennsylvania railroad, maintenance of way department, Pittsburgh division.

One 4-ton electric traveling crane for Packard Motor Car Co., Detroit.

Iron Ore Imports High

Philadelphia, July 7.—Imports at this port for the week ending July 4, were as follows: 7858 tons of iron ore from Sweden; 7300 tons of iron ore from Spain; 3500 tons of manganese ore from Brazil; 856 tons of pig iron from East India; 375 tons of structural steel from Belgium; 200 tons of pig iron from the Netherlands; 101 tons of pig iron from Sweden; 10 tons of pig iron from Belgium; 10 tons of steel from Sweden one ton of manganese ore from Germany and 29 tons of steel blooms from Strassbourg.

Fewer Furnaces Are Blown Out

Net Loss of Five in June Indicates That Low Point of Curtailment May Be Reached—191 Furnaces Operating on June 30—Production Falls to 89,299 Tons Per Day

WHILE production of coke pig iron continued on the downward swing during June there was evidence that the low point for the present probably has been reached. Active blast furnaces showed a net loss of five, whereas during both April and May the net falling off was 25. Already the blowing in of several furnaces has been announced. On the last day of June, 191 furnaces were active, this being 47.9 per cent of the 399 furnaces in the country. On May 31, active stacks numbered 196, or 48.5 per cent of the total.

MONTHLY PRODUCTION

	1925	1924	1923
January	3,372,207	3,015,480	3,228,225
February	3,214,067	3,073,619	2,993,918
March	3,571,422	3,465,389	3,523,595
April	3,211,235	3,226,107	3,546,308
May	2,933,907	2,619,986	3,868,486
June	2,678,992	2,022,836	3,667,868
Total 1st half	18,981,830	17,423,417	20,828,401
July	.....	1,783,457	3,684,677
August	.....	1,882,986	3,448,886
September	.....	2,053,617	3,117,526
October	.....	2,461,727	3,142,642
November	.....	2,514,979	2,891,191
December	.....	2,956,389	2,912,527
Total 2nd half	.....	13,653,155	19,197,449
Grand total	18,981,830	31,076,572	40,025,850

In June 2,678,992 gross tons of pig iron was made, this being a loss of 254,915 tons, or 8.7 per cent from the 2,933,907 tons of May. June, however, had 30 days as against 31 in May. Total production of iron was the lowest since last November when the output was 2,514,979 tons. Production in June was at the rate of 89,299 tons per day, which compared with the 94,642 tons of the previous month was a drop of 5343 tons or 5.6 per cent. The loss of May was 11.5 per cent. During the month just passed iron was made at the rate of 32,600,000 tons per year, as compared with 34,550,000 tons in May.

Production of coke and anthracite pig iron for the first half of 1925 amounted to 18,981,830 gross tons. This total was 1,558,413 tons better than the 1924 first half output of 17,423,417 tons. With the exception of the 20,828,401-ton output for the first part of 1923, the 1925 figure was the best since the war.

Merchant pig iron made in June totaled 556,644 tons, which compared with the 605,347 tons of May, was a loss of 48,703 tons. On a daily basis, this represented 18,554 tons per day against 19,527 tons per day in May, the loss being 973 tons. Nonmerchant or steelworks iron totaled 2,122,348 tons in June, which compared with the 2,328,560 tons of the month before was a loss of 206,212 tons. Reduced to a daily basis, the June figure represented 70,745 tons per day, or a loss of 4370 tons from the 75,115 tons per day of May.

On the last day of the month 191 blast furnaces were in operation, this being a drop of 5 from the 196 active on May 31. During June no merchant furnaces were blown in and 1 was blown out. Of the nonmerchant class 2 were blown in and 6 were blown out or banked, the net loss being 4. Of the total active on last day of June, 47 were merchant and 144 were nonmerchant. The corresponding figures for May were 48 and 148. On June 30 the Steel corporation was operating 75 furnaces as against 79 on May 31.

Spiegeleisen made in June totaled 4972 tons, which compared with the 5294 tons of May was a loss of 322 tons. Ferromanganese with 17,926 tons, was a loss of 4791 tons from the 22,717 tons made in the month before.

Stacks blown out during June were: In Pennsylvania: One Aliquippa, Jones & Laughlin Steel Corp.; one Edgar Thomson and one Duquesne, Carnegie Steel Co.; Perry, Pickands, Mather & Co.; Swede No. 1, Alan Wood Steel & Iron Co. In Indiana: Gary No. 6, Illinois Steel Co. In Illinois: South Works Old No. 4, Illinois Steel Co.

Furnaces blown in during the month were: In Ohio: Mary, Sharon Steel Hoop Co. In Pennsylvania: Swede No. 2, Alan Wood Steel & Iron Co.

Active Blast Furnaces

	In blast	Total	Per cent
June	191	399	47.9
May	196	405	48.5
April	221	409	54
March	246	410	60
February	256	411	62.3
January	251	411	61

AVERAGE DAILY PRODUCTION

	1925	1924	1923	1922	1921
Jan.	108,781	97,278	104,136	53,090	77,895
Feb.	114,788	105,987	106,925	58,220	69,906
Mar.	115,207	111,787	113,664	65,674	51,447
Apr.	107,041	107,537	118,210	69,005	39,691
May	94,642	84,515	124,790	74,495	39,202
June	89,299	67,427	122,262	78,748	35,466
July	.....	57,531	118,860	77,517	27,892
Aug.	.....	60,741	111,254	58,408	30,802
Sept.	.....	68,454	103,917	67,466	32,859
Oct.	.....	79,410	101,375	84,827	39,821
Nov.	.....	83,832	96,373	94,870	47,165
Dec.	.....	95,367	93,952	99,468	52,992
Ave.	104,872	84,908	108,659	73,563	45,223

DIVISIONS OF PRODUCTION

1924	Merchant	Non-merchant	Spiegel	Ferro-man-ganese	Other ferro
Jan.	707,710	2,307,770	7,948	19,735	.....
Feb.	679,700	2,393,919	9,870	22,262	.....
Mar.	712,321	2,753,068	13,794	22,350	.....
Apr.	708,151	2,517,956	4,240	23,580	163
May	648,656	1,971,330	9,336	21,663	763
June	551,408	1,471,428	9,410	20,563	779
July	468,780	1,314,677	15,328	11,927	765
Aug.	465,059	1,417,927	8,010	7,654	760
Sept.	518,017	1,535,600	5,033	7,255	593
Oct.	607,717	1,854,010	10,047	3,545	822
Nov.	605,438	1,909,541	8,835	13,429	870
Dec.	634,726	2,321,663	5,284	21,220	904
Total	7,307,683	98,768,889	107,135	198,183	6,419
1925					
Jan.	659,256	2,712,951	5,418	23,564	956
Feb.	661,415	2,552,652	4,910	19,796	848
March	736,284	2,835,138	5,449	24,422	877
April	689,162	2,522,073	5,341	21,448	799
May	607,053	2,322,487	5,294	22,717	298
June	556,644	2,122,348	4,972	29,834	.....

JUNE PIG IRON

	No. of Stacks	No. in blast last day of month June	May	Total tonnage made Merchant	Nonmerchant	—Totals— June	May
Pennsylvania	139	60	64	94,403	715,362	809,765	929,695
Ohio	77	45	44	155,461	537,218	692,679	731,041
Alabama	39	24	24	108,739	122,114	230,851	241,596
Virginia	17	2	2	10,393	.....	10,393	11,198
New York	27	10	10	41,764	96,098	137,862	143,860
New Jersey	4	0	0	.....	.....	.....	.....
Illinois	25	15	16	94,781	174,123	268,904	295,579
Colorado	5	3	3				
Indiana	17	14	15	12,585	363,338	375,923	407,549
Maryland	6	5	5				
Wisconsin	6	1	1				
Kentucky	7	1	1				
Tennessee	14	1	1	5,014	56,429	61,443	71,339
Utah	1	1	1				
West Virginia	5	3	3				
Georgia	1	0	0				
Michigan	4	4	4				
Minnesota	3	2	2	26,626	39,740	66,366	73,741
Missouri	1	0	0				
Texas	1	0	0				
Spiegel and ferro—all states	....	....	....	6,880	17,926	24,806	28,309
Total	399	191	196	556,644	2,122,348	2,678,992	2,933,907

Iron Ore Tax Methods Tested in Court

Another action has been brought in the Minnesota courts to contest the state tax commission's methods of determining iron ore values for purpose of assessment under the occupation tax law. Pickands, Mather & Co., Cleveland, representing six subsidiary companies has sued the commission in the state supreme court. Some months ago another producer started suit against the commission for taking the published open market price of ore at lower lake ports as the selling price on which to base the assessment, claiming that where contracts were made providing lower prices the contract stipulation should be considered.

Pickands, Mather & Co. claim the commission does not allow for depreciation of mine values, as provided by law. The tax agents allow only 5 cents a ton as the cost of selling a ton of ore, while it is claimed 10 cents is nearer the correct figure. The commission refuses to allow for liquidated royalties, royalties that have been anticipated or paid previous to the tax period. Iron ore producers in general claim the commission has exceeded discretionary powers in determining the profit at the mine, and that the figures arrived at are far too high. Reductions in ore prices of 80 cents in 1924 and 50 cents in 1925 have made the tax oppressive; still there is agitation in Minnesota for increasing the occupation tax levy from 6 per cent to 10 per cent.

In the first three years of the occupation tax law the ore companies in the state paid $11,738,183, up to June 30, 1924.

Submit Bids for 200 Government Ships

Washington, July 7.—Awards are expected to be made at an early date on bids for the 200 steel ships of the Emergency Fleet Corp., the tenders having been opened on June 30. The bids were made on a basis of "as is, where is," 110 of the vessels being at Norfolk, Va., about 40 at New York, 21 at Philadelphia and the remainder along the gulf coast. The only bidder for the entire lot was the Boston Iron & Metals Co., Baltimore, whose figure was $1,370,000. Bids were also submitted for groups and types of vessel A. The Newport News Shipbuilding & Dry Dock Co. put in figures ranging from $649,000 to $699,000 for 110 vessels. The General Metal Supply Co., Oakland, Calif., bid $582,230 for 110 vessels, $234,000 for 50 and $60,300 for 12.

Henry Ford was in consultation with Chairman O'Connor of the shipping board some time ago about buying the vessels but made no bid unless through one of the foregoing bidders. Mr. O'Connor said he was not surprised at there being no Ford bid because Mr. Ford had conferred with him only regarding purchase of the ships for operation. At the Ford office in Detroit it was stated a bid had been mailed.

Outlook Bright, States John A. Topping

New York, July 7.—John A. Topping, chairman of the Republic Iron & Steel Co., writing in the *Magazine of Wall Street* paints a rather interesting picture of the iron and steel outlook. He says:

"Recent estimates of the agricultural department suggest that for machinery alone, during the next decade, the farmers' requirements will amount to $3,000,000,000 to $10,000,000,000, and for the year 1925, about $1,000,000,000.

"If to this machinery requirement, there is added the per capita normal wants of our 51,0000,000 farmers, for iron and steel products, their total requirements will by far, exceed the total wants of the railroads of the United States, for iron and steel, which for 1924, were approximately 8,000,000 tons.

"As to the railroads, their wants for 1925, it is estimated, will be close to last year's total expenditures for improvements and equipment, which amounted to $874,743,000, the American Railway association estimating railroad equipment and improvement requirements for the year 1925, at $750,000,000. The automotive demand is likewise normal and will call for about 9 per cent of our total steel production.

"Building and construction trades during 1924, consumed about 18 per cent of our total production of iron and steel, and as building contracts for the first four months of 1925, were about 7 per cent in excess of 1924, present indications suggest increased requirements for the building trades.

"In general, as measured by all trade indices, the volume of business is satisfactory, labor is well employed, the purchasing power of our people never greater, and there is therefore, every reason for optimism. In fact, I am confident the year 1925 will show a substantial increase over 1924 in the production of iron and steel, if present crop prospects are realized."

Seeks Scrap and Ores

Armstrong Steel Co., 904 Park building, Pittsburgh, is in the market for tungsten ores, high speed steel scrap, Swedish iron and muck bar.

Ruling Exposes Taxes of Competing Firms

Washington, July 7.—Broader powers than generally supposed, have been conferred upon the board of tax appeals by congress. The actual and complete returns may be produced before the federal board of appeals on appeal by a taxpayer from a decision of the commissioner of internal revenue.

The importance of this ruling lies in the fact that it permits one company to force the commissioner to divulge the returns of all competing companies for the purpose of establishing a base for the computation of the ratio of net profits to invested capital. The case resulted from a suit instituted by the Oeserlein Machine Co., Cincinnati, demanding that the internal revenue commissioner produce the returns of all competing companies for the purpose of explaining how the commissioner arrived at the figures showing invested capital.

The company contended that the treasury department has been unable to determine its invested capital with reference to assessing an excess profits tax. It was also contended that the excess profits tax shall be computed by reference to the average ratio of net income to the invested capital of a group of representative corporations engaged in the same business as the corporation making the appeal.

Most of Tool Exhibit Space Reserved

Over 90 per cent of the available exhibition space for the New Haven machine tool exhibition, to be held in Mason laboratory Yale university, New Haven, Conn., Sept. 8-11 already has been reserved, according to an announcement of the committee in charge. This exhibition is conducted annually under the auspices of the New Haven section of the American Society of Mechanical Engineers, department of mechanical engineering of Yale university and the New Haven chamber of commerce.

The exhibition has grown from scarcely more than a local venture to one of national importance. With the exhibit of a number of noteworthy foreign products, the 1925 show will assume international importance. Technical sessions will be held in conjunction with the exhibition, these being arranged by the machine shop practice division of the American Society of Mechanical Engineers. The sessions of Friday, Sept. 11 will be devoted to "Shop Training Methods."

Design Electric Furnace for Foundry

(*Concluded from Page 69*)

tures. It is adapted equally to acid or basic melting and may be alternated to make heats of gray iron or steel.

The upper part of the furnace commonly called the mast and jib is specially designed for low overhead clearance. The superstructure or electrode cranes travel below the furnace floor. The electrode cranes are driven and controlled by a special device which automatically relieves the load should the electrodes encounter undue opposition while penetrating bad charges of scrap. This device disengages the feed and prevents the electrodes from breaking. Suitable devices have been provided on the electrode cranes for adjusting or regulating them to conform to the variable position of the roof center. Importance is attached to this feature because sometimes the roofs are improperly built.

Adjustments may be made away from the heat zone. If necessary the electrode cranes may be swung clear of the furnace body. The electrode cranes supporting the holder, electrodes, steelwork, castings and copper conductors all are counterbalanced. The counter weights are placed in a remote place in the transformer room. This balanced crane reduces the load while on the downward travel and also permits the use of smaller motors for the electrode lift.

To reduce friction to a minimum, the cranes have been designed to ride between large self inclosed ball bearing rollers. The large surface area of the rollers enable them to turn with the slightest movement of the crane. The rollers are mounted in a special adjusting device to take up any play that may develop after an extended period.

An air-cooled, electrode holder is an original feature of the installation. It presents rapid means of clamping, flexibility and high electrical conductivity. It is claimed that absence of water on the holder and superstructure permit better operating conditions since there are no joints or valves to get out of order. The roof cooler or electrode gland has been designed to insure low electrode consumption. It has large water area, self sealing joint and lightness. The sealing joint prevents an emission of flame or air drafts around the cooler.

Charging doors on two opposite sides are large and of heavy construction and are raised and lowered by a counterweight sliding in a fixed tube attached to the furnace shell. These self sealing doors are operated easily by the melter himself. He needs no helper to assist him while taking his necessary tests on the heat. The pouring spout is arranged to provide a clean tap into the ladle. The slag is held back until the last thus assuring metal comparatively free from slag inclusions.

The furnace operates on 3-phase, polyphase, 25 cycle current at 2300 volts. The power is furnished by the Buffalo General Electric Co., Buffalo. In melting steel, the furnace operates on 120 volts while melting and on 100 volts during the subsequent refining process. One voltage of 120 is used throughout when making plain carbon steel.

Automatic regulators of the Thury type have been adopted as standard equipment on this installation. Hand wheels are provided to be used in the event any trouble develops with the electrode motors, or at any point in the power line. The electrical layout functions admirably from the point where the current enters the transformer house to the electrodes and works in perfect unison with the mechanical installation. The electrical efficiency of this furnace is high, represented by a power factor of 95-97 per cent.

For some time past the furnace has been in steady operation making from three to six heats each 8-hour day. A charge of 2500 pounds of steel scrap is melted in a period of between 35 and 50 minutes. The total period of each heat including the time necessary for refining the metal is between 60 and 75 minutes.

Special heats of cast iron are made from cold stock in 50 minutes. They are made on the same lining employed when melting steel. Part of the general routine includes taking from 1 to 3 tons of hot metal from the cupola and refining it in the electric furnace. Results obtained from this practice have been exceedingly interesting and at present the designers are developing a method for producing a special iron for the automotive industry.

On steel heats the average power consumption is 625 kilowatt hours per ton and on cast iron heats the consumption is 500 kilowatt hours per ton. From 3 to 7 tons of high grade electric steel are poured per day into all kinds of automotive castings, valves, fittings and general jobbing work. The company also pours from 50 to 75 tons of cupola melted gray iron into general pipe castings, valve extension boxes, railroad pedestals and oil boxes.

Mine Loaders Now Find Wider Use

(*Concluded from Page 77*)

rope sheave at the far end of the train. During the changing operation the skip stands on the back of the incline car.

This device has shown itself to be dependable and a time saver. In many instances it should make mechanical loading pay where poor car service prevents continuous operation.

Referring to the matter of shovel design, it was felt that the machine as developed, while well suited to certain conditions, lacked a broad field of application. For wide work or on sharp curves this type is at a disadvantage. The use of air as a motive force also is open to objection in many ways, while the use of track trucks with the necessity for frequent changing of track clamps in moving up seemed to be a feature susceptible of change for the better.

Further investigation was undertaken with the hope of producing a machine of more general usefulness. The result has been the design shown in Fig. 5. This machine which is to be built and put on the market by the McMyler-Interstate Co. of Cleveland is of the full rotating type, having a standard steam shovel dipper of ¼-cubic yard capacity. For underground service it is designed to be driven by a single electric motor, though an air or gasoline engine may be used. Having no boom and being self-propelling on either crawler or ordinary rail trucks it can adapt itself to wide or narrow work whether it be straight or curved. It can operate in connection with the car loading device, Figs. 1 and 2, or can load direct into cars placed at the side or rear.

It is designed for a clean-up width of 18 feet, and while requiring slighly under 7 feet for operating height, by lowering the dipper it can be taken through 4-foot headroom, often advantageous in passing from one working place to another. The machine may be completely rotated in less than 7 feet of width by retracting the shovel over the machine body. When desirable a low truck may be used for transportation over rails, with only a slight loss in headroom.

This shovel, resulting from long experience in a difficult field, is believed well adapted to a wide range of excavating and mining jobs requiring the service of a small but powerful machine.

Greek Magnesite Lags Behind Austrian

Washington, July 7.—The importance of magnesite as one of the principal products of the Greek mining industry, and the high quality of Greek magnesite in comparison with other deposits are well known. The industry remains, however, with relatively little development. Official figures for production during the past five years show 71,870 metric tons in 1920, 58,249 in 1921, 56,642 in 1922, 57,783 in 1923 and 58,200 in 1924. It is apparent that production has decreased noticeably since 1920, and a still greater decrease has occurred since the war period, as 1916 production was 223,484 tons. The reasons for this falling off are said to include the poor organization in Greece for extracting and marketing its magnesite, and increased Austrian competition.

The drop in production since 1920, and its apparent stagnation at about 58,000 tons a year during the past four years, have additional causes in the limited foreign and domestic demand, in instability of the drachma and in the acute labor situation in the mining industry. Production costs and high freight rates have advanced prices until competition in foreign markets is difficult.

Some months ago, owing to keen competition between larger and smaller producers in Greece, the price fell off sharply. At present, prices for the raw product range about 32 to 35 shillings per ton f.o.b. kilns. Calcined magnesite is quoted at 110 shillings per ton f.o.b. kilns. During the war the price of the calcined product reached £10 per ton.

The following table shows Greek exports of magnesite by countries during 1922, 1923 and 1924. A considerable increase is noted over this period, especially to Germany and Holland, the principal buyers. It is also apparent that the United States, fourth on the list in 1923, disappeared almost entirely during 1924, for the reasons above mentioned.

Destination	1922 (Kilos)	1923 (Kilos)	1924 (Kilos)
France	2,312,627	1,206,116	1,104,256
Germany	7,610,284	6,324,066	29,974,405
United States	1,999,846	4,918,426	7,680
Italy	58	699,776	2,205,262
Holland	8,411,744	10,347,139	13,992,682
Great Britain	7,901,789	10,188,841	5,930,272
Belgium	.....	.....	512,000
Other countries	49,984	244,497	.....
	28,286,332	33,928,861	53,726,557

W. J. Boyle of the Boyle Mfg. Co., chairman of the traffic committee of the southern branch of the Iron, Steel and Allied Industries, announces that plans have been formulated and a definite program will be presented at the next meeting of the executive committee in September.

Russian Metal Industries Increasing Output

Washington, July 7.—Further expansion of the Russian metal industry in the second half of the Soviet fiscal year ending Oct. 1 next is set forth in a report by Djerzhinsky, chairman of the Supreme Economic council, in a report received by the Russian information bureau in Washington.

During the fiscal half year ending April 1, the increase in output over the same period of last year was 80 to 100 per cent. The program for the second half calls for additional increase. Production still is far behind demand, though generally ahead of the program schedule.

Production during the first half-year amounted in value to 156,611,000 rubles, about $80,000,000 at pre-war prices, or $136,000,000 at present prices. The revised schedule for the year calls for a total production worth $300,000,000 at present prices. Production of iron and steel for the first half on the basis of pre-war prices is valued at 65,627,000 rubles; general machinery 42,380,000 rubles and agricultural machinery 12,860,000 rubles.

Strike Voted in Boston

Boston, July 7.—Boston building industry is again threatened by a general strike of the building trades mechanics called for by a recent vote. Some weeks ago the building trades laborers of greater Boston struck for higher wages. The employers failing to reach any compromise adopted open shop principles and were successful in obtaining workers. The threatened strike of all building mechanics has been called in an attempt to force the wage demands of the striking laborers. Fabricators and building contractors do not view the situation with alarm.

Otis Earnings Increase

Earnings of the Otis Steel Co., Cleveland for the first 5 months of 1925 amounted to $959,964 after all charges, but before depreciation. This compares with a deficit of $121,785 in the corresponding months of 1924. Profits of the company in May were $328,564 compared with a loss of $163,182 in May one year ago.

Indian Steel Company's Earnings Gain

Substantial improvement was registered at the Tata Iron & Steel Co. in India for the year ended March 31. According to the accounts which will shortly be issued to the shareholders the gross profits for the year under review were £924,375 ($4,480,000) as against £585,836 ($2,840,000) for the preceding year.

After providing for debenture interest, other interest and administration charges, a net profit of £485,625 ($2,355,000) or more than twice the net profit of the preceding fiscal year is announced. For the year under review £457,500 ($2,220,000) were written off for depreciation as against £225,000 ($1,100,000) for the preceding year.

The production of pig iron of the Tata Iron & Steel Co. for the fiscal year 1923-24 was 540,000 tons compared with 437,000 tons in the preceding year. This shows an increase of over 23 per cent and also that the works have been well occupied, since the total capacity of production is estimated at 610,000 tons.

Only four furnaces out of five have been in operation for some time but efficiency has greatly increased, since the output obtained was as much as was formally obtained with five furnaces in operation. It will be recalled that the Tata company benefits from bounties received from the government of India while a tariff is imposed upon foreign products.

The output of steel ingots rose from 235,000 tons to 371,000 tons, or an increase of 58 per cent, the total capacity being estimated at 570,000 tons. The production of finished steel increased by 60 per cent, the figure being 225,000 tons for the year under review as against 140,000 tons for the preceding year.

Establish Sales Offices

Rogers Brown & Crocker Bros. Inc., the company into which the old established Rogers, Brown & Co. and Crocker Bros. have been merged, has established its headquarters at 21 East Fortieth street, New York. The branch office at Philadelphia has been located in the Pennsylvania building in the suite formerly occupied by Crocker Bros. The branch office in Boston has been established in the suite formerly occupied by Rogers, Brown & Co. The changes became effective July 1.

Unique Brass Mfg. Co., Detroit, has increased its capital stock from $150,000 to $200,000.

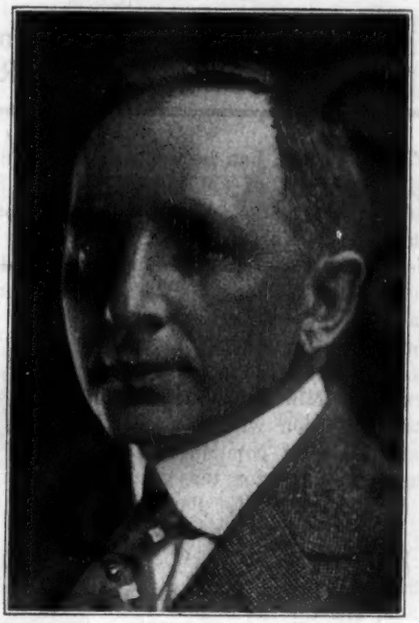
Industrial Men in the Day's News

William Wuthenow, Now Head of the Republic Rolling Mill Corp.

FROM waterboy to president runs his history of 40 years connection with the rolling mill industry.

ART, music and radio are but a few of his hobbies which are many and to which he devotes much enthusiasm.

HIS genial personality has made many friends to whom he always remains "Bill."



WHEN William Wuthenow, president of the newly formed Republic Rolling Mill Corp., Chicago, was a boy he read Oliver Optic's books of biography, favorite titles of which were something like "From Canal-boy to President." No canal of importance being available he got as near as possible to that for his start and became waterboy at the mill of the North Chicago Rolling Mill Co. and now has completed the cycle by becoming president, not of the United States, but of a lively industrial infant with which he had been familiar in detail in its previous incarnation, as the western iron mill of the Republic Iron & Steel Co.

He was born at Vicksburg, Miss., an event of much importance to him simply as an essential to the career he built on that as a foundation. Just when that was is rather a mystery but his start as a water boy was made 40 years ago and through these four decades he has been unswerving in his devotion to the rolling mill industry. The North Chicago Rolling Mill Co., at the South Chicago plant of which he was employed, was absorbed by the Illinois Steel Co. and then by the United States Steel Corp. Under these ownerships young Wuthenow advanced steadily as steel mill tonnage clerk, chief weigh master and engineer.

The lure of the west coming at the same time as an opportunity in 1893 he went to Pueblo, Colo., and entered the employ of the Colorado Fuel & Iron Co. as a machinist. After some experience there he returned to Chicago and became engineer, operating the 3000-horsepower engine of the plate mill of the Illinois Steel Co.

In 1899 he severed his connection with the Illinois Steel Co. and entered the employ of the Republic Iron & Steel Co. with which he remained until the sale of its East Chicago iron mill early in the present year, making it a full quarter century. His first position with the Republic organization was as auditor of costs but he was soon placed in the operating department as efficiency manager, working directly under the direction of Charles Hart, general manager. This position covered all the plants of the company, then scattered over the entire country.

He soon was made manager of the mill at East St. Louis, Ill., and after some experience there was made assistant to T. R. Aken, general manager, at Pittsburgh.

These various positions brought him to 1907. At that time the Tennessee Coal, Iron & Railroad Co. and the Republic company were closely related and he was sent to Birmingham, Ala., to take charge of the rolling mills of both companies in the South. The next year he was sent to New York as assistant to John A. Topping, chairman of the board, and remained there until 1914 when he was made manager of the western plants of the company with his office in Chicago.

As president of the Republic Rolling Mill Corp. he is head of a compact organization possessed of an efficient mill and well trained in the production and sale of an important product.

Throughout his career Mr. Wuthenow has cultivated the finer things of life and always has been interested in the new developments of the times, outside his routine. Art and music are hobbies and he would feel much deprived were he unable to follow the season of the Chicago Civic Opera Co. and the summer opera at Ra-

vinia, near Chicago. His reading is wide and deep and it is difficult to touch a point in ancient or modern literature with which he is not familiar.

When radio started its popularity he became interested and was not content to buy simply, but built his own receiving sets, having nearly 100 to his credit.

A farm in Michigan, containing a lake and a summer home, affords relaxation, not alone in summer, but in the hunting season as well and his radio there brings the world to his ears when he is in its seclusion.

Perhaps the best clue to his personality is that his friends all call him "Bill."

Men of Industry

Personal News of a Business Character Pertaining to the Iron and Steel and Related Fields of Enterprise

JOHN F. SCHURCH, has been appointed president of Manning, Maxwell & Moore, Inc., Pershing Square building, New York, succeeding J. M. Davis, recently chosen president of the Delaware, Lackawanna & Western railroad. Mr. Schurch formerly was vice president, with headquarters at Chicago. He was graduated from the University of Minnesota in 1893. Prior to his affiliation with the machinery and equipment company, Mr. Schurch was associated for ten years with the Minneapolis St. Paul & Sault Ste. Marie railroad and later with the Railway Materials Co. of Chicago, the Damascus Brake Beam Co., Cleveland, and the Locke Insulator Mfg. Co., now the Locke Insulator Corp., Baltimore. In 1914 he was elected vice president of the T. H. Symington Co., Rochester, N. Y.

* * *

C. C. Crial has become field representative for the Franz Foundry & Machine Co., Akron, O.

* * *

Lee Stewart, manager of structural and plate sales for the Bethlehem Steel Co. in the Philadelphia territory is in a hospital in Philadelphia.

* * *

Alan G. Wood, vice president of the Alan Wood Iron & Steel Co., recently underwent an operation in a Philadelphia hospital.

* * *

E. J. Draper of Detroit has been named sales representative for steel casements, a product of the Lindell-Eckberg Mfg. Co., Inc., Jamestown, N. Y.

* * *

Frank R. Schubert has been appointed general manager of the Strom Ball Bearing Mfg. Co., Chicago. He formerly was works manager.

John Diesk succeeds Mr. Schubert as works manager, and Lorenz Peterson continues as assistant works manager in charge of production.

* * *

Judge E. H. Gary, chairman of the board and finance committee of the United States Steel Corp., is expected back in Birmingham by July 15 for a stay of a week or more for continued observation as to diet and for further inspection of various

JOHN F. SCHURCH

works of the corporation in this territory.

* * *

W. F. Blythe has been made sales manager of the mill products division of the Bridgeport Brass Co., Bridgeport, Conn.

A. D. Merwin has become manager of the fabricating division of the Bridgeport Brass Co. He formerly was with Steel & Johnson Mfg. Co., Waterbury, Conn.

* * *

Ernest V. Squier has been appointed with Edward F. Clemett as representatives of the Greasalt Products Corp., Syracuse, N. Y., manufacturer of cleaning materials, in Michigan and Toledo, O. Mr. Squier will cover Michigan outside of Detroit while Mr. Clemett will handle sales in Detroit and Toledo.

* * *

Arthur O. Baer who resigned effective June 1, as superintendent of the Iroquois plant of the Youngstown Sheet & Tube Co., Youngstown, and superintendent of the blast furnaces at the Indiana Harbor works, was tendered a farewell dinner recently by the department heads. Mr. Baer had been identified with the iron and steel industry for 27 years.

* * *

Charles B. Wilson has joined the selling staff of Phillips Isham, 30 Church street, New York, merchant in pig iron, coke and other products. Mr. Wilson originally was connected with Rogers, Brown & Co. Later he went with Reed, Fears & Miller Inc., and since the acquisition of that company by Crocker Bros., had been with the staff of the latter company.

* * *

H. D. Eller in charge of the Newton Steel Co.'s office in the Liggett building, New York, has resigned effective, August 1.

L. J. Voyer formerly sales manager of the Liberty Steel Co., and at present sales manager of the Ohio Corrugating Co., Warren, O., will succeed Mr. Eller.

B. A. Ployd has been appointed assistant manager of sales in the New York district of the Newton company.

* * *

J. N. Kerr, who has been associated with the Mahoning Valley Steel Co. since its inception in 1916 in the sales department and lately as general manager of sales, has resigned effective Aug. 1. Mr. Kerr will become secretary and general manager of sales of the Ohio Corrugating Co., Warren, O.

C. A. Thomas, now assistant secretary of the Mahoning Valley Steel Co. has been appointed general manager of sales, and Robert Wilson will assume the duties of the assistant secretary of the company.

British Prices Go Down

(*Continued from Page* 101)

count. The demand for Staffordshire iron is small.

English steel billets remain nominally at £6 15s ($32.80) delivered, but occasionally £6 12s 6d ($32.19) is accepted. Belgian billets quoted at £6 2s 6d ($29.76) have also been sold at £6 ($29.16) delivered.

The pig iron industry goes steadily from bad to worse. Pease & Partners Middlesbrough announce that they will close the Teesbridge Iron Works at the end of this week, involving the stoppage of two blast furnaces and a single battery of coke ovens nearby.

East coast No. 3 G. M. B. is weak at £3 13s ($17.74). Foreign shipments have been a little better, partly because of some seasonal demands from the Baltic, which usually buys from this country in the summer months. Some shipments have been made on old contracts, which will be favorably reflected in the June returns. Stocks of pig iron are heavy in all districts except the Midlands. The nominal figure of £3 7s 6d ($16.40) for Northampton No. 3 has been shaded to the extent of 1s ($0.24) to 1s 6d ($0.36) recently, and the quotation of £ 3 12s 6d (17.61) for Derbyshire is frequently undercut.

An unusual steel order has been placed by the Manchester ship canal, which requires 568 steel doors having an average size of 14 feet 6 inches and weighing 1¼ tons each for some large warehouses now being built at Trafford Park.

The steel trade has benefited somewhat by the low price of melting scrap now available, this material being obtainable in Sheffield at £3 5s ($15.79) delivered. Sales are small.

The tin plate market has become rather dull and keener competition has led to easing of prices, a few mills accepting 19s 6d ($4.73) 19s 9d ($4.79) per box, though a number of important firms will not go below £1 ($4.76). Operations are about 75 per cent of capacity.

Germans Facing Financial Difficulties

BERLIN, June 30.—(*European Staff Service*)—The situation of the German iron and steel market is less encouraging as the financial difficulties of the Stinnes combine have resulted in a crisis. The shortage of capital is hampering business and consumers are only covering their urgent needs. An important firm of merchants in Berlin which in previous times was connected with Krupps has been compelled to go under receivership owing to financial difficulties. The situation of other firms also has become difficult, especially that of a Leipzig and Essen iron merchant.

The position of the industry is unsatisfactory and while dismissals in the Ruhr coal mines are increasing, 20,000 miners have been given notice in Upper Silesia as a result of the closing of the German-Polish customs border effective on June 15. On the other hand, it is interesting to note that, in contradiction to all reports published so far, the Phoenix Mining Co. recently declared the business of the last months to be satisfactory and to have unfilled orders for more than two months. The output of this producer during fiscal years ending July 1 was as follows, in metric tons: 1921-22, 804,029 tons of pig iron and 1,142,241 tons of raw steel; 1922-23, 902,187 tons of pig iron and 1,160,247 tons of raw steel; 1923-24, 349,716 tons of pig iron and 423,992 tons of steel; from July 1, 1924 to April 1, 1925, 787,785 tons of pig iron and 1,125,184 tons of steel.

In the meantime the struggle relative to the new import duties is progressing and the Union of Iron and Steel Industrialists has declared that the import duties on steel would reduce steel prices. The German steel output now has been reduced by 20 per cent and that of pig iron by 40 per cent as the domestic market cannot absorb the whole output with the present reduced export business.

State railroads have placed an order totaling 300,000 tons of rails, sleepers and hardware worth about 50,000,000 marks ($11,900,000), while an option for an additional 80,000 tons has been secured. The price for the rails is about 130 marks ($30.95), while the market price for new standard rails is unchanged at 142 marks ($33.75). The orders have been placed with the Stahlwerksverband which has distributed them.

The Roumanian railroads have placed an order for 600 locomotives and 20,000 kilometers of rails, worth 17,000,000 marks ($4,050,000), with German works on reparations account.

It is reported that the French and German steelmakers have agreed to propose to their respective governments that they permit the import into Germany of 1,700,000 metric tons of foreign semifinished goods, 600,000 tons from the Saar, 800,000 tons from Lorraine and 300,000 tons from Luxemburg, at half the regular duty. On this basis the German-French commercial treaty may soon be signed.

Belgian Market Unsettled by Strike

BRUSSELS, June 29.—(*European Staff Service*)—Labor troubles, political disturbances and fluctuating exchange have unsettled the Belgian iron and steel market. In industrial circles opinion varies as to future developments but a general lack of confidence prevails. The Charleroi strikes have caused several mills which were heavily committed to transfer part of their unshipped tonnage to other mills. Jobbers are also distributing their orders in view of evening up the load during the present crisis.

Iron and steel workers in the Charleroi district are out on strike. Blast furnaces have been banked and all mills are closed down. Discontent among the workmen is spreading to other sections of the country. The Gilson factories and the Laminoirs de Baume in the Center district report that a number of their men are striking in sympathy with the Charleroi workers.

Franc—$0.045

Pig iron quotations remain unchanged despite the weakness of the franc. Lorraine and Luxemburg furnaces are meeting Belgian competition on export business. Belgian No. 3 foundry pig iron is offered at 340 francs ($15.30) per metric ton, f.o.b. Antwerp.

The semifinished steel market is completely disorganized due to the strike in the Charleroi basin. Prices are irregular. For example, basic bessemer blooms are quoted at £4 15s ($23.15), whereas billets and sheet bars are practically unobtainable. Exporters are turning to Luxemburg and Lorraine mills for their requirements.

Prices of finished steel products are being regulated by French competition. The absence of Charleroi mills from the market and the probability of the strike spreading to other manufacturing districts has resulted in a restriction of sales. Lorraine mills are offering merchant bars at 550 French francs ($27.50) per metric ton, f.o.b. Antwerp.

Brussels, June 30.—(*European Staff Service*)—Production of pig iron and steel in Belgium during May was slightly in excess of the preceding month's figures for finished steel. The output of pig iron was 274,800 metric tons compared with 267,850 tons in April. The number of furnaces operating on May 31 was 52. Following are further details:

	METRIC TONS		
Monthly average	Pig iron	Steel ingots and castings	Finished steel
1913	207,055	205,550	154,820
1922	134,430	130,430	112,215
1923	178,995	191,410	161,950
1924	234,000	238,380	198,115
1925			
Jan.	249,350	246,160	212,870
Feb.	245,600	239,660	199,310
March	281,560	268,550	219,910
April	267,850	250,990	207,860
May	274,800	252,720	201,490

Here and There in Industry

Live Information Which Records the Expansion of Various Lines of Productive Enterprise

CONSTRUCTION of a plant at Parkersburg, W. Va., has been started by the Penn Metal Co., 675 Concord avenue, Cambridge, Mass., manufacturer of sheet iron and steel building material. The new plant will produce metal lath, rib lath, cold rolled channels and allied fireproof products. The other products will be manufactured as usual at Boston, Jersey City, N. J., and Philadelphia. The new unit will be modern in design and practice and will be in full operation this year. A. V. Spinosa, Pittsburgh, vice president of the Penn Metal Co., will be in charge of the Parkersburg plant.

* * *

BEACH ENAMELING CO., Ottowa, Canada, just has completed installing a new porcelain enameling department. Clyde Thomas, formerly with Findlay Brothers Co. of Canada will run the Beach Enameling plant.

* * *

WANNER MALLEABLE CASTINGS CO., Hammond, Ind., operating plants at Hammond, Ind., and Beloit, Wis., contemplates building air furnaces at its Beloit works. The new unit will require about 100 tons of steel and will have a stack about 150 feet high. The furnaces are expected to be put into operation in August or early September.

* * *

CHICAGO BRIDGE & IRON WORKS is erecting a steel tank for the Republic Iron & Steel Co., in its furnace quarters in Birmingham. The tank is 75,000 gallons capacity and is 12 feet to bottom and of the elliptical bottom type. The tanks will be for general service, providing a safe reserve in time of contingencies.

* * *

DIESEL engines made at Lansing, Mich., recently have been given the approval of the government which has placed an order for 15 of the engines, manufactured by the Hill-Diesel Engine Co., successor to the Bates & Edmonds Co. The engines are in combination with a generator and are to light patrol boats used in prohibition enforcement and immigration work by the treasury department.

* * *

YORK MFG. CO., York, Pa., manufacturer of ice making and refrigerating machinery, has made 262 installations of equipment since its report of June 8. Installations involve from one to a dozen machines and systems. A few industrial and railroad companies are listed as buyers such as the Russell, Burdsall & Ward Bolt & Nut Co., Port Chester, N. Y., and the B. F. Goodrich Co., Akron, O.

* * *

AN EXTENSION to the main foundry building and increased space for cleaning room and shipping platform just have been completed by the Chicago Steel Foundry Co., Chicago, manufacturer of electric furnace steel castings. A 10-ton, double chamber, electric annealing furnace was purchased from the Electric Furnace Co., Salem, O., the unit now being installed. David Evans is president of the Chicago company.

* * *

INTERNATIONAL COMBUSTION ENGINEERING CO., New York, through one of its subsidiaries, has booked a contract for the installation of the fuel burning equipment in the new power plant to be erected by the New York Edison Co. This contract involves an outlay of about $1,000,000 and calls for the installation of water cooled furnaces, air heaters and air transport systems which will convey coal to the furnaces just as water is conveyed through city mains.

* * *

G. L. REEVES, formerly secretary and treasurer of the Reeves Pulley Co., Columbus, O., has been elected president of the company to succeed his brother, Milton O. Reeves, who died recently. Mr. Reeves is the third brother to hold this office. Before the death of M. O. Reeves, the position was held by M. T. Reeves, who died last December. Other officers elected were Paul Reeves, son of M. O. Reeves, vice president; Robert F. Reeves, secretary; John Jewell, treasurer. These officers, with Carl M. Reeves and D. T. McNeil of Detroit, form the board of directors.

* * *

DIRECTORS of the Duff Mfg. Co., Pittsburgh, manufacturer of railway lifting jacks and other railroad equipment, has made a number of changes in its official organization. J. R. McGinley, president has been made chairman of the board and his son Thomas A. McGinley, formerly vice president becomes president. The board created two positions of vice presidents and filled them as follows: P. G. O'Hara, in charge of eastern sales, headquarters at New York and C. N. Thulin, formerly district manager at Chicago, in charge of western sales, headquarters at Chicago. The general offices and works of the company are located in Preble avenue, N.S., Pittsburgh.

* * *

GEORGE FORD, who was general manager of the works at Stoughton, Wis., of the Moline Plow Co. until the property went into liquidation some time ago, has taken a five-year lease of the foundry department and is organizing a new Wisconsin corporation to operate the plant as a commercial foundry. The city of Stoughton bought the entire local Moline plant in April by a $100,000 bond issue. So far two of the main buildings have been leased, and now the foundry unit has been taken over. Mr. Ford is an experienced foundryman and before becoming general manager of the Stoughton works was in charge of the foundry department. Local capital is taking a part in the new corporation, which expects to get started by Aug. 1.

* * *

AUSTIN Co., Cleveland, engineer and builder, has received contracts from Hammond Brass Works, Hammond, Ind., Hofius Steel & Equipment Co., First avenue South and Hudson streets, Seattle, and Ypsilanti Foundry Co., Ypsilanti, Mich., for buildings. The Hammond plant will be a 1-story, 90 x 320-foot steel constructed, monitor type building with 30,000 square feet of floor space. The Hofius building will contain 32,000 square feet and will be 100 x 320 feet. It will be used for structural steel fabrication. Lacy Hofius is president, George J. Danz, vice president and George E. Hardenberg, general manager. The Ypsilanti company, manufacturer of piston rings, will have a 2-story, 50 x 160-foot plant to be used as a machine shop. J. H. Lonsky is president of the Ypsilanti company.

Permit System Aids Open Shop

Building Thrives in San Francisco Since Supply Dealers Refused To Sell To Unionized Contractors—Supreme Court's Decision Upholding Practice Marks End of Labor Leaders' Domination

SAN FRANCISCO, July 3.—The recent unanimous decision of the United States Supreme Court in upholding the legality of the permit system, as practiced by the Industrial Association of San Francisco, has placed a powerful weapon in the hands of all parties interested in the open shop or American plan of operation.

For many years San Francisco was known as a "union town" and up until the early part of 1921, the building industry was conducted on a strictly closed shop basis, possibly less than 1 per cent of the workers in this industry being without union cards.

On Jan. 18, 1921 the unions, represented by the Building Trades council, and the employers, represented by the Builders exchange, made a written agreement to arbitrate, following several small strikes in the latter part of 1920. The board of arbitration on March 31, 1921, made an award fixing a temporary wage scale for the succeeding six months, providing a slight reduction. The following day the Building Trades council challenged the jurisdiction of the board, and after another discussion between the various parties, the board reaffirmed its decision on April 29, 1924. The council refused to be bound by the decision and declined to proceed further with arbitration cases. Members of all the unions in the industry immediately struck.

Under the auspices of the chamber of commerce a mass meeting of citizens was held and it was resolved that building in San Francisco could not stop, and if necessary workers from other cities must be brought in. Funds were subscribed and a committee was appointed to bring in workmen, assured of employment at the wage fixed by the board.

Shortly after this, the Builders exchange, organized in 1890, and composed of over 1000 members declared in favor of the open shop. They further resolved that if the unions had the right to withhold their service then they had a right, also, to bring into play their economic weapon namely, to refuse to supply certain materials to employers of union workman. They demanded as a condition of supplying the materials that employers maintain the American plan.

A permit system was adopted whereby the members of the Builders exchange were kept advised as to who was operating on the American plan and who was not. Contractors were required to show that they were not operating on the closed shop basis. Because of the large number of persons involved the Builders exchange issued the permits. With few exceptions all the material was produced within the state.

The conflict was confined to San Francisco and its immediate vicinity, all participants were located there, all sales for which permits were required were restricted to San Francisco, and no permits were required for materials to be used outside the strike area. For materials coming directly from outside the state, there were no restrictions.

Inspectors were employed by the exchange to visit all jobs from time to time and ascertain whether the contractors were actually operating under the American plan. Those who had reverted to the closed shop were cut off the list.

On Nov. 8, 1921 the Industrial Association of San Francisco was formed, composed of several thousand business and professional men who took over the work that had been performed by the chamber of commerce with respect to labor relations. The association was active in the strike, carrying out the engagements previously made by the chamber to protect workmen because against violence, to prevent discrimination against qualified workmen because of membership or nonmembership in labor unions, and to keep building in progress. Among its activities was that of training apprentices. The supply of labor soon began to increase. In two years the association trained more than 1100 apprentices to become proficient in the various trades without expense.

The general strike, which commenced in April 1921, was practically over in September of that year. The permit system was then practically discontinued.

In March 1922 the conflict broke out afresh, but in a greatly restricted way. The plumbers union demanded all nonunion plumbers be discharged. Plasterers and bricklayers followed with similar demands. These demands led up to a strike and boycott, the boycott being carried to the extent of striking on jobs far removed from San Francisco because the employer employed nonunion men in San Francisco.

Large Uses of Steel in Small Ways

(*Concluded from Page* 78)

ers means a total of 780 tons.

Next to ring binders are loose-leaf ledgers, which in various styles and sizes are in large use. These ledgers while not as numerous as the ring binders are of heavier construction and require far more steel per unit. The steel construction is likewise more complicated. Steel strip from which stampings are made is the chief material although one manufacturer buys steel sheets in carload lots exclusively for ledger construction. For the type of ledger known as a post binder, screw stock is used in large quantity. For this a high finish is required and a piston rod finish is usually specified. One post type of binder uses sectional posts. These sections, which, tapped and threaded, are inserted to increase the ledger capacity, are made on automatic screw machines.

Many ledgers are operated by keys which are made on automatic stamping machines. One of the standard types of steel office ledger requires 103 dies to turn out the various stampings used in eight standard sizes. One manufacturer of ledgers estimates production in this country at 600,000 a year and the average weight of steel per ledger at 1½ pounds which means a total of 450 tons.

School children each year use more than 1,000,000 loose-leaf notebooks. Most of these are of simple design, some consisting simply of cardboard covers held together by steel snap rings. The manufacture of the snap rings used for this purpose is an extensive enterprise itself, and the steel used runs into a comparatively heavy tonnage. Special purpose binders such as those used for catalog binders, for individual filing and bookkeeping systems, for hotel registers, bring in to the notebook field a vast assortment of steel bound covers and devices. The

tonnage of steel thus represented while difficult to estimate because of the large number of companies concerned is known to be large.

Strike Closing Belgian Iron and Steel Plants

Brussels, June 27.—(*European Staff Service.*)—A labor crisis which may become acute has developed in Belgium in the iron and steel district of Charleroi. The agreement of last March will soon terminate. The workmen's leaders proposed that a joint inquiry look into the accounts and other documents of the employers. The employers answered by notifying the workmen that the 5 per cent decrease in wages which has been in effect since April 1 would be maintained and that dating from June 16 the operation of the plants would be continued only if the workmen accepted the conditions of the employers.

Over 15,000 wage earners went on strike June 16. The employers in the engineering plants have decided upon a general lockout. Seventeen important works are concerned, including Sambre et Moselle, Acieries et Toleries de la Providence, Thy-le-Chateau and Metallurgiques du Hainaut. Out of the 24 blast furnaces operating in the district, it is reported that 20 have been shut down.

British Price Tendency Still Downward

London, June 30.—(*European Staff Service*)—The board of trade returns for May, 1925, give the average export prices per gross ton for a certain number of iron and steel products. These prices are compiled from actual contracts which were made several months ago.

The following table shows the price of seven of the principal commodities which have been exported from Great Britain. Prices generally tend to drop, especially if compared with the quotations prevailing in May of last year. The price of foundry pig iron was 4s 7d ($1.55) less than in May, 1924; ferromanganese was 4s 5d ($1.40 less than in April, 1925, and £1 13s 3d ($8.10) less than in May, 1924. The price of carbon billets was £6 11s 6d ($32) less than in April, 1925, and about the same price as a year ago; beams were 2s (49c) less than in April and 5s 6d ($1.34 less than a year ago. Galvanized sheets were about the same price as in April but £2 4s 1d ($10.70) less than in May, 1924; tin plate was 1s 7d (39c) more than in the previous month and £1 11s ($7.52) less than a year ago. Plates were 6s 6d ($1.58) less than in April, 1925, and £1 5s 1d ($6.10) less than in May, 1924. May averages were as follows:

	£	s	d	$
Foundry pig iron	4	16	2	23.45
Ferromanganese	14	17	2	72.00
Carbon billets	13	3	9	64.00
Beams	10	6	7	50.10
Galvanized sheets	19	3	4	93.00
Tin plate	24	0	7	117.00
Plates	10	14	1	52.00

Will Add Merchant Mill

A 40-inch two-high structural mill of the cross country type will be installed at the South Deering works of the Wisconsin Steel Co. Chicago, according to officials of the company. The unit will be built by the United Engineering & Foundry Co., Pittsburgh. The Wisconsin company has a 40-inch blooming and a billet mill under construction. Expansion of rolling facilities is in line with the recent enlargement of the company's holding in the Chicago district which includes new docks and unloading machinery

Babbitt Sales Gain

Washington, July 7.—Apparent consumption of babbitt metal in May totaled 5,081,667 pounds according to reports of 27 manufacturers to the department of commerce. This is slightly below 5,126,415 pounds in April. Sales increased but producer consumption dropped. Following are comparisons.

1925	Total apparent consumption	Sales by manufacturers	Consumption by producers
January	5,683,182	4,620,814	1,062,368
February	5,164,619	4,103,340	1,061,279
March	5,644,288	4,395,901	1,248,387
April	5,126,415	3,928,135	1,198,280
May	5,081,667	4,189,557	892,110
Total 5 months	26,700,171	21,237,747	5,462,424

Obituaries

EDWARD W. NEWELL, aged 68, mechanical engineer of the Westinghouse Airbrake Co., Wilmerding, Pa., died at his home in Pittsburgh, June 29. He was born in Southridge, Mass., in 1856 and after an early schooling there, located in Pittsburgh. He received the degree of bachelor of science at the Worcester Institute of Technology and immediately after graduation, entered the employ of the late George Westinghouse. For several years he held posts in the Far East. He made two trips around the world for the company. He was chairman of the Airbrake company's safety council.

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J. Harvey Finch, aged 46 years, died at the French hospital, New York, July 2 as a result of a ruptured blood vessel in the heart causing internal hemorrhages. Mr. Finch was New York district sales manager for the Sweets Steel Co., Williamsport, Pa., in which capacity he had served for ten years.

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George W. Carpenter, until recently owner of the Rhode Island Nickel Plating Works, Providence, R. I., died recently at his home.

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John D. Hooton, aged 68, foreman in the safety department of the Homestead, Pa., works of the Carnegie Steel Co., died recently in his home in Hays, Pa. He was born in Rowesburg, W. Va., and had been a resident of Hays for the last 15 years.

* * *

Henry M. Sanders for 35 years head of H. M. Sanders Hardware Co., Boston, hardware dealers, formerly president of the New England Hardware Dealers' association, president of the Winchester Stores association, and active in hardware circles, died recently at his home in Dorchester, Mass.

* * *

George H. Sage, president of the Berlin Construction Co., Berlin, Conn., died suddenly at his home in West Hartford, Conn. recently, of a cerebral hemmorrhage. He was 61 years old. Mr. Sage was active in many business and civic enterprises and was a member of the Engineers Club of New York.

* * *

John Reid, Jr., prominent manufacturing executive of Racine, Wis., died June 29 after a prolonged illness at the age of 47 years. He was a native of Brooklyn, N. Y., and following graduation from Yale, became associated with the West Iron Works. In 1912 he was called to Racine by the J. I. Case Threshing Machine Co., and later became head of the Belle City Mfg. Co. Mrs. Reid is the daughter of Frank K. Bull, formerly president of the Case company, who recently resumed active charge of the Belle City company, which he founded.

Jobber Demand Well Maintained

Prices Show Steadier Tendency—Holiday Curtails Sales

ALTHOUGH curtailed by the week-end holiday, sales of iron and steel products from warehouses are maintained fairly well. Low stocks at the midyear inventory may result in some increased buying. Prices show more steadiness few revisions on the lists being noted during the past week.

While far from brisk, jobbing demand in the New York metropolitan district is maintained fairly well. Reinforcing bars and structural steel continue to predominate in demand. Prices are unchanged. Although recently believed there would be a reduction in blue annealed sheets, the firmer mill market has been reflected in warehouse prices and revisions now are not expected.

Jobbing demand at Philadelphia is only fair. Prices are unchanged.

Warehouse orders at Buffalo showed the usual July 4 slump. Warehousemen express belief that midyear inventories will reveal stock shortages which will result in brisk buying.

Fairly well sustained demand is reported at Pittsburgh. Orders are not so numerous as in the latter part of June. Prices are firm.

Prices for iron and steel products out of Cincinnati warehouse are firm. While the volume of business is not as large as it was several weeks previously, individual orders are numerous. Structural materials, especially bars, continue in best demand. Nails and wire also are moving better.

Demand for iron and steel goods at St. Louis is at slightly better than seasonal averages. Cold drawn steel is more active and concrete bar buying is steady.

Following the recent reduction on sheet prices by Detroit operators, prices have remained firm. Tonnages continue to move in fair volume, although no increase has been noted since the reduction of sheet quotations.

No change in prices was made by Cleveland jobbers last week. Sales volume continues steady except for the usual holiday let down.

Strip steel and flat wire at the Chicago warehouses have been reduced from 6.35c to 6.10c. Cement-coated nails are now quoted at 2.25c instead of 2.45c. Warehouse business is generally unchanged in the Central West.

Quotations at Cents Per Pound at Leading Market Centers

STEEL BARS

Boston	3.265c
Buffalo	3.30c
Chicago	3.00c
Cincinnati	3.30c
Cleveland	3.10c
Detroit	3.15c
Los Angeles	3.15c
New York	3.24c
Philadelphia	2.90c to 3.20c
Pittsburgh	2.90c
Portland	2.85c
San Francisco	3.30c
Seattle	3.25c
St. Louis	3.15c
St. Paul	3.25c

IRON BARS

Boston	3.265c
Buffalo	3.30c
Chicago	3.00c
Cincinnati	3.30c
Detroit	3.15c
New York	3.24c
Philadelphia	2.90c to 3.20c
St. Louis	3.25c

REINFORCING BARS

Boston	3.265c to 3.50c
Buffalo	3.30c
Chicago	2.60c
Cincinnati	3.30c
Cleveland	2.85c to 3.10c
Detroit	3.15c
Los Angeles, C. L.	3.05c
Los Angeles, L. C. L.	3.30c
New York	2.95c to 3.15c
Philadelphia	2.80c to 3.20c
Pittsburgh	2.10c to 2.60c
San Francisco, C. L.	3.35c
San Francisco, L. C. L	3.80c
Seattle	3.50c

STANDARD STRUCTURAL SHAPES

Boston	3.365c
Buffalo	3.40c
Chicago	3.10c
Cincinnati	3.40c
Cleveland	3.20c
Detroit	3.25c
Los Angeles	3.15c
New York	3.34c
Philadelphia	2.80c to 3.10c
Pittsburgh	3.00c
Portland	2.85c
San Francisco	3.30c
Seattle	3.35c
St. Louis	3.25c
St. Paul	3.35c

PLATES

Boston	3.365c
Buffalo	3.40c
Chicago	3.10c
Cincinnati	3.40c
Cleveland, ¼-inch and thicker	3.20c
Cleveland, 3/16-inch	3.425c
Detroit	3.25c
Detroit, 3/16-inch	3.45c
Los Angeles	3.15c
New York	3.34c
Philadelphia	2.80c to 3.10c
Philadelphia, 3/16-inch	3.00c to 3.30c
Pittsburgh	3.00c
Portland	3.25c
San Francisco	3.30c
Seattle	3.25c
St. Louis	3.25c
St. Paul	3.35c

NO. 10 BLUE ANNEALED SHEETS

Boston, 3/16-inch	3.915c
Buffalo	3.80c
Chicago	3.50c
Cincinnati	3.60c
Cleveland	3.10c
Detroit	3.75c
Los Angeles	3.70c
New York	3.89c
Philadelphia	3.50c
Portland	4.25c
San Francisco	3.70c
Seattle	4.25c
St. Louis	3.60c
St. Paul	3.75c

NO. 28 BLACK SHEETS

Boston	4.95c
Buffalo	4.40c
Chicago	4.00c
Cincinnati	4.55c
Cleveland	3.90c
Detroit	4.40c
Los Angeles	4.65c
New York	4.00c to 4.35c
Philadelphia	4.55c
Portland	5.25c
San Francisco	4.65c
Seattle	5.25c
St. Louis	4.50c
St. Paul	4.25c

NO. 28 GALVANIZED SHEETS

Boston	6.00c
Buffalo	5.45c
Chicago	5.00c
Cincinnati	5.65c
Cleveland	5.10c
Detroit	5.50c
Los Angeles	5.75c
New York	5.00c to 5.35c
Philadelphia	5.65c
Portland	6.25c
San Francisco	5.75c
Seattle	6.25c
St. Louis	5.50c
St. Paul	5.25c

BANDS

Boston	4.015c
Buffalo	4.05c
Chicago	3.65c
Cincinnati	3.95c
Cleveland	3.85c
Detroit	3.80c
Los Angeles	4.25c
New York	3.99c
Philadelphia	3.75c
Pittsburgh	3.60c
Portland	4.25c
San Francisco	4.15c
Seattle	4.25c
St. Paul	3.90c

HOOPS

Boston	5.50c
Buffalo	4.05c
Chicago	4.15c
Cleveland	3.85c
Detroit	4.30c
New York	4.49c
Philadelphia ¾-inch and wider	4.00c
Philadelphia, less than ¾-inch	4.50c
Pittsburgh	3.60c
Seattle	5.00c
St. Paul	4.40c

COLD FINISHED STEEL

	Rounds and hexagons	Flats and squares
Boston	3.95c	4.45c
Buffalo	3.95c	4.45c
Chicago	3.60c	4.10c
Cincinnati	3.85c	4.35c
Cleveland	3.80c	4.30c
Detroit	3.90c	4.40c
Los Angeles	5.25c*	.....
New York	4.00c	4.50c
Philadelphia	4.15c	4.65c
Pittsburgh	3.60c	4.10c
Portland	5.00c*	.....
San Francisco	5.25c*	.....
Seattle	4.75c*	.....
St. Paul	4.05c*	.....

*Rounds only.

COLD ROLLED STRIP

Boston, .100 inch, 500 lb. lots	6.15c
Buffalo	6.65c
Chicago	7.15c
Cincinnati	7.15c
Cleveland, over 500 pound lots	5.95c
Detroit	6.30c
New York	6.10c
Philadelphia	6.35c
Pittsburgh	6.30c

FOREIGN IRON AND STEEL
New York, duty paid

Swedish hollow drill steel	15.00c
Swedish iron bars round	6.75c
Flats and squares	7.00c

WELDED PIPE
Discounts from warehouse, New York City
Standard Steel Pipe

WROUGHT STEEL PIPE

	Black	Galvanized
⅛-inch butt	—23	+21
¼ to ⅜-inch butt	—36	— 3
½-inch butt	—46	—29
¾-inch butt	—51	—37
1 to 3-inch butt	—53	—39
2-inch lap	—40	—22
2½ to 6 inch lap	—48	—35
7 and 8-inch lap	—44	—17
9 and 10-inch lap	—38	—14
11 and 12-inch lap	—37	—12

WROUGHT IRON PIPE

	Black	Galvanized
⅛ to ⅜-inch butt	+44%	+78%
½-inch butt	— 4	+19
¾-inch butt	—11	+ 9
1 to 1½-inch butt	—14	+ 6
2-inch lap	— 5	+14
2½-inch lap	— 9	+ 9
3 to 6-inch lap	—11	+ 6
7 to 12-inch lap	— 3	+16

Construction and Enterprise

Concise and Timely Business Building Opportunities from the Field of Industry

BIRMINGHAM, ALA.—Knight Iron & Metal Co., Eleventh street and Second avenue south, has taken out a building permit for an office and warehouse.

GADSDEN, ALA.—W. H. Mayben & Son have been awarded the contract for concrete foundations and brick work for the new soil pipe shop to be constructed here for the H. Wetter Mfg. Co., Memphis, Tenn. The main building will be 122x500 feet. A cupola shed will be 50x60 feet. Ingalls Iron Co. has the contract for erecting the structural steel. (Noted June 18).

LOS ANGELES—Reliance Machine Tool Co. has opened offices at 2030 Santa Fe avenue. Oscar Goldstein and Frank Hicks are organizers.

LOS ANGELES—General Electric Co., Schenectady, N. Y., is expected to erect a $500,000 warehouse and factory according to A. G. Arnold, secretary and manager of the Los Angeles chamber of commerce.

OAKLAND, CALIF.—Willys-Overland Co., 1299 Bush street, San Francisco, contemplates constructing an automobile assembly plant here. Austin Co. of California, 244 Kearny street, San Francisco, is architect and engineer.

COLORADO SPRINGS, COLO.—Bailey Bros. have purchased the Colorado Springs Toy Co. building at 504 West Colorado avenue and have installed their plant there. Bailey Bros. operate an automobile repair shop headed by O. L. Bailey and E. H. Bailey.

BRIDGEPORT, CONN.—McCathron Boiler Works, Co., 76 Knowlton street, has taken out building permits for a 1-story addition.

BRIDGEPORT, CONN.—B. B. Sheedy, 17 West Seventy-third street, New York, plans constructing 60x225-foot service garage. J. W. Northrop, 211 State street, is architect

HARTFORD, CONN.—Department of state police, 100 Washington street, are in the market for miscellaneous tools for a garage.

JEWETT CITY, CONN.—Toys & Utilities Mfg. Co. has been organized to manufacture mechanical toys, by George Lapoint.

NEW HAVEN, CONN.—E. M. Jennings Co., 347 Crown street, plans constructing a 98 x 285-foot and 50 x 75-foot garage and repair shop for which Norton & Townsend, 405 Temple street, are architects.

NEW HAVEN, CONN.—A $75,000 plant addition will be erected here by Sargent & Co. for the manufacture of hardware. According to plans by Westcott & Mates, 139 Orange street, architects, the proposed structure will be 60x210 feet.

PLAINVILLE, CONN.—The Twinateleak Aerial Insulator Mfg. Co. has been incorporated for $50,000 to manufacture and sell radio accessories and parts, by Angelo Di Tommaso, Palmo Leardi, Frank Spranzo, and Luigi and Remigius D'Antonio.

SEMOUR, CONN.—New Haven Copper Co., 79 Main street, plans remodeling and improving its plant on Main street.

Where additional information is presented, reference is made to date of issue in which previous item appeared.

WATERBURY, CONN.—French Mfg. Co., Robbins street and Grandview avenue, has awarded contracts to the Torrington Building Co., Torrington, Conn., for constructing a 1-story addition to its plant. The French company manufactures bronze and copper tubing and similar products. Frederick W. French is president. The plant is to be a 1-story, 80 x 225-foot building for the production of small tubing.

LEWISTON, IDAHO—Lewiston Portland Cement Co., through T. J. Klossoki, engineer, is taking bids for a 21 mile railroad to be built from Upper Mission creek to the millsite on Lower mission creek.

CHICAGO—Crown Mfg. Co. has retained Dubin & Eisenberg, 14 West Washington street, as architects for a 2-story, 50x100-foot plant.

CHICAGO—Hesser & Soden, 1236 Morse avenue, have retained Fox & Fox, 38 South Dearborn street, for a 3-story, 150x170-foot garage.

CHICAGO—Link-Belt Co., 300 West Pershing road, has awarded contracts to Algot B. Larson, 19 South La Salle street, for constructing 2-story, 35x96-foot shipping room addition.

CHICAGO—Peterson Core Oil & Mfg. Co., Kolmar and Lexington streets, has bought a 125x200-foot site occupied by its plant and will build an office building and additions to the plant.

CHICAGO—Mall Tool Co., 7159 Stony Island avenue, has been incorporated with $25,000 capital to manufacture dies, tools, patterns and machinery by Arthur W. Mall, A. L. Heald, and R. Gaston Krauss, Goldman & Allshouse, 5 South Wabash avenue, are correspondents.

CHICAGO—Barker-Flazin Engineering Co., 160 North La Salle street, has been incorporated with $1200 capital to conduct a general engineering business, by Bertrand D. Barker, Emmet J. Flavin. George E. Brannon, 11 South La Salle street, is correspondent.

CHICAGO—Illinois Auto Appliance Co., 154 East Erie street, has been incorporated with 500 shares no par value to manufacture automobile accessories by Lewis Childs, C. E. Boynton and William Q. Setliffe, 64 West Randolph street.

CHICAGO—Western Heating Service Co., 5051 West Chicago avenue, has been incorporated with $50,000 capital to manufacture heating, ventilating and refrigerating systems by George McGregor, Arthur A. Giesa and Arthur H. Spruth. E. E. Challenger, 68 West Monroe street, is correspondent.

CHICAGO—Triumph Auto Bumper Co. Inc., 880 Lill avenue, has been incorporated with $10,000 capital to manufacture automobile appliances, machines and tools by George F. Braun, William H. Schaub and G. Thielgard. E. F. Laurin, 139 North Clark street, is correspondent.

CHICAGO—Geier Corp. of Illinois, 209 South LaSalle street, has been incorporated to manufacture machine tools, dies, models and patterns with $25,000 capital by Claud D. Raber and H. J. Hickering. Cassels, Potter & Banrley, 1040 The Rookery, are correspondents.

CHICAGO—American Hardware Corp. of Chicago has bought a 5-story building 60x180 feet at 319 West Randolph street and will occupy it for its hardware manufacturing business as soon as possession is obtained and equipment installed. George T. Kimball, New Britain, Conn., is president.

CHICAGO—Stanton Home Safe Co., 4252 North Western avenue, has been incorporated with $20,000 capital to manufacture coin-retaining and coin-recording devices, metal savings banks and locks by Charles O. Smith, Lyman A. Stanton and Edward J. Padden. Edward J. Padden, Room 107 City Hall, Chicago, is correspondent.

CHICAGO—Holden Laboratories, Inc., 2637 Clybourn avenue, has been incorporated with $100,000 capital to manufacture mechanical devices, containers and apparatus by William E. Holden, George L. Deverall and Samuel G. Stephenson. Hyde, Hennings, Thulin, Westbrook & Watson, 10 South La Salle street, are correspondents.

KANKAKEE, ILL.—Carroll Engineering Co., 1303 East Court street, has been incorporated with $10,000 capital to do engineering and contracting by Samuel Carroll, Albert C. Hobbie, W. R. Cubberley and W. Carson Spence, Charles G. Henry Jr., 505 City Bank building, Kankakee, is correspondent.

NIANTIC, ILL.—Wonder Furnace Co. manufacturer of domestic heating apparatus, has purchased the plant of the Pan-American Automobile Co. at Decatur, Ill. where it contemplates installation of equipment including a 20-ton cupola.

QUINCY, ILL.—General Radiator Co., has awarded contracts to Bauer, Johnson & Co., Front and Vermont streets, Quincy, for excavating and grading for a 2-story, 61x348x 359x467-foot plant. Bids on general contract will be taken about July 20. (Noted June 18.)

SOUTH ELGIN, ILL.—South Elgin Concrete Units Co., has been incorporated with $12,000 capital to manufacture concrete products for construction work, by Edward C. Thoene, Peter Reichert, Henry Moelbusch, W. A. Leissman, Carl Holze and Otto Schultz. Charles L. Hunt, 21 East Main street, St. Charles, Ill., is correspondent.

WHEATON, ILL.—A. H. Karstone has retained E. M. Mitchell, 127 North Dearborn

street, Chicago, as architect for a 2-story, 65x72-foot automobile repair shop.

BRAZIL, IND.—Chicago Fire Brick Co. contemplates reconstructing its plant recently damaged by fire. Expenditure is estimated at $300,000. W. J. Gilbert, 111 West Washington street, Chicago, is president and manager.

INDIANAPOLIS—Edwards Enameling Co. has leased a site at 835 South Charles street, where it will operate a metal enameling works.

INDIANAPOLIS—Supervalve Co. has been incorporated with $25,000 capital to do a general foundry and machine shop business, specializing in valves, by Irving M. Fauvre, Julian M. Fauvre and Paul T. Rockford.

INDIANAPOLIS—Utilitor Co. has been incorporated for $50,000 to manufacture a small garden tractor formerly manufactured by the Midwest Engine Co., Clarence A. Brown is president, Wallace C. Bear, treasurer and Mary Brown, secretary. Rights to produce the tractor were purchased by the new company.

WATERLOO, IOWA—XL Cast Iron Smoke Pipe Co., 235 Nevada street, has been incorporated, as a result of the merger of Anderson Foundry Co. and Paris Foundry Co.

PORTLAND, ME.—Drilling Machine Corp. has been incorporated for $200,000 to manufacture and deal in machinery of all kinds.

BALTIMORE—Baltimore Tool Works, Inc., recently incorpated at 108 Grant street, will manufacture chisels, star drills, etc.

BALTIMORE—Kimball-Tyler Co., Inc., manufacturer of kegs and tanks, plans reconstructing its plant damaged recently by fire. William C. Tyler is president.

BALTIMORE—Crook-Horner Supply Co., Inc., 7 Balderson street, has been incorporated for $100,000 to manufacture and deal in pipe, valves, etc., by Daniel G. Conant and William H. Pitcher.

BALTIMORE—Work will be started shortly on a $50,000 plant for the Pioneer Hardwood Flooring Co. According to plans by F. W. Steiner, 124 No. Lakewood avenue, architect, the proposed structure will be 120x245 feet.

BALTIMORE—Baltimore Spring Bed Co., 754 West Pratt street, has awarded contracts for constructing a 38 x 149-foot manufacturing building to Consolidated Engineering Co., 21 West Franklin street.

ACTON, MASS.—The school committee plans installation of manual training equipment in the new high school.

REVERE, MASS.—Purchase of repair tools and garage equipment for a service station on Shirley street is contemplated by S. Dickman, 1618 North Shore road.

BOSTON—Electric Storage Battery Co., 720 Beacon street, plans constructing $140,000 plant.

BOSTON—E. Stone, 53 State street, is seeking equipment for garage and service station at 391 Highland avenue, Somerville.

BOSTON—Air Reduction Sales Co., 122 Mt. Vernon street, Dorchester, has awarded contracts for constructing a 2-story, 60 x 80 and 40 x 40-foot plant here.

BOSTON—So-Lo Jack Co., 537 Commonwealth avenue, has been organized to manufacture a new type automobile jack. Joseph Rioux is president. The plant is at Attleboro, Mass.

BOSTON—The Ray Co. has been incorporated for $500,000 to manufacture cutlery, by Henry P. Roberts, Roxbury, Mass.; Frederick E. Head, Essex, Mass., and Raymond L. Head, Cambridge.

DORCHESTER, MASS.—James Russell Boiler Works Co., 9 Dewar street, plans constructing a plant addition here. Monks & Johnson, 99 Chauncey street, are architects.

EVERETT, MASS.—New England Tank & Tower Co., 44 Main street, has awarded contracts for constructing 1-story machine shop to Hudson Construction Co., 6 Beacon street, Boston.

SOMERVILLE, MASS.—Lockwood, Greene & Co., Boston, Engineers, have been awarded contracts for constructing a boiler house, coal storage bin, incinerator and other buildings for the New England Vinegar Works, Inc.

SOUTH BOSTON, MASS.—McCulloch Mfg. Co., 200 Old Colony avenue, is in the market for welding and cutting equipment.

WILLIAMSPORT, MASS.—B. F. Perkins & Son, Inc., Holyoke, Mass., have awarded contracts to Lockwood, Greene & Co., Boston, engineers, for preparing plans for a 2-story pattern storage building, 80x150-foot and 1-story machine shop, 80x260-feet. (Noted June 18.)

BATTLE CREEK, MICH.—Burns Brass Foundry Co. is erecting a foundry unit to accommodate its increasing brass, aluminum and bronze business.

BATTLE CREEK, MICH.—N. B. Sherman Mfg. Co., plans constructing and remodeling its brass foundry and finishing buildings, 1-story, 114x197 feet. L. J. Sarvis, 65 East Main street, is architect. L. H. Heuser, 53 West Jackson boulevard, Chicago, is structural engineer.

CARSON CITY, MICH.—Electric Bean Grader Products Co., Ithaca, has been incorporated for $2500 to manufacture and sell scientific instruments, by E. W. Tillman, R. C. Brooks and O. P. Geib.

DETROIT—Packard Motor Car Co. is taking bids for an 85x150-foot assembly plant to be constructed here.

DETROIT—Schmandt Foundry Co. has been incorporated with $25,000 capital to conduct a foundry and machine shop.

DETROIT—American Motor Body Co., 12262 Kerceval avenue, contemplates constructing plant addition. R. H. Hillman is interested.

DETROIT—Michigan Brush Mfg. Co., 3701 Michigan avenue, contemplates constructing 1-story brick plant addition.

DETROIT—The plant being constructed by the Arthur Colton Co. will be used by the American Tool & Supply Co. The new building is at Dubois and Franklin streets.

DETROIT—Albert Kahn, 1000 Marquette building, has plans for constructing a 63 x 480-foot shop on Conners avenue for the Hudson Motor Car Co., 12601 East Jefferson avenue.

DETROIT—National Piston Co. has been incorporated for $50,000 to deal in pistons and metal products, by Rockwell T. Gust, 165 California avenue, Nicholas J. Fleming and Charles B. Marks.

DETROIT—Eureka Vacuum Cleaner Co. is expanding its plant program to double its present production capacity to 2000 machines a day. Plant and office space will be increased by more than 50 per cent.

DETROIT—Packard Motor Car Co., 1380 East Grand boulevard, is taking bids on construction of a 1-story, 85x150-foot assembling building. Albert Kahn, Inc., 1000 Marquette building, is architect.

DETROIT—Wood-Miller Marine Engine Co. has been formed by Gar Wood, famous speed boat builder and pilot, and Harry Miller, Los Angeles designer of racing automobiles. The company will have its headquarters here but will build and market its marine engines from Los Angeles.

FENTON, MICH.—Fenton Machine Tool & Die Co. has awarded contracts to H. K. Ferguson Co., Cleveland, engineer and builder, for a 1-story 120 x 160-foot building.

GRAND RAPIDS, MICH.—Kent Iron & Metal Co. has been incorporated for $50,000 to deal in all kinds of metals, by Joseph Brown, 510 Welathy street, Emanuel Brown and Adrian Bommelje.

JACKSON, MICH.—Ampco Twist Drill Co. has been incorporated with 20,000 shares no par value stock and $100, to deal in drills, reamers and tools, by A. B. Connable, Peck

Canada Buys Most Shapes

CANADA continued the largest importer of American plain structural material in May, taking 4198 tons of a 6190-ton total exported. Cuba, the Philippine Islands, Chile, Argentina and Mexico were the only other countries taking more than 100 tons each, according to data just released by the department of commerce. Following is exports of structural shapes, plain and fabricated, ship and tank plates, and metal lath by countries of destination.

	Structural shapes plain tons	Fabricated tons	Ship and tank plates pounds	Metal lath pounds
Spain	77	.....	.....	.....
United Kingdom	1	.....	.....	.....
Canada	4,198	154	120,849	39,189
Costa Rica	.....	.....	21,115	8,129
Guatemala	2	34	4,440	.....
Honduras	22	.....	.....	.....
Nicaragua	2	.....	4,850	3,985
Panama	42	2	.....	390
Salvador	3	.....	.....	7,946
Mexico	176	90	209,639	21,260
Jamaica	.....	.....	.....	406
Cuba	711	472	204,620	17,847
Other Brit. W. Ind.	.....	1	.....	.....
Dutch W. Ind.	.....	.....	.....	620
Haiti	.....	.....	.....	2,840
Argentina	191	203	325,100	184,998
Brazil	.....	13	16,377	34,989
Chile	259	420	.....	490,345
Colombia	30	.....	.....	14,634
Ecuador	.....	.....	.....	12,108
Peru	24	.....	.....	2,269
Venezuela	.....	12	387,805	25,092
China	9	.....	.....	25,696
Other Dutch E. Ind.	.....	83	1,123,425	.....
Hongkong	7	.....	.....	21,380
Japan	5	27	.....	200,243
Philippines	366	.....	.....	.....
Australia	61	.....	.....	.....
British South Africa	4	.....	.....	.....
Total—quantity	6,190	1,511	2,418,220	1,114,366

Industrial Business Changes

ANNOUNCEMENT is made by Curtis Wright, production manager of the Pacific Spring Co., Oakland, Calif., of the merger with the L. A. Young Industries, Inc., Detroit. The new company here will be known as Pacific Spring Co. of California, division of the L. A. Young Industries, Inc. Automobile and bed springs, coils for mechanical purposes and other types of springs now are being made in the Oakland plant.

* * *

Carmor Metal Products Co., Railway Exchange building, Chicago, has been incorporated to take over the business of the same name. D. A. Sanford is vice president.

* * *

The Hill Mfg. Co., 53 West Jackson boulevard, Chicago, refrigeration engineer, has changed its name to the Hill Products Corp.

* * *

Prentiss Vise Co., 106 Lafayette street, New York, has purchased the Henry Cheney Hammer Corp., Little Falls, N. Y., which it will operate as the Cheney Hammer division of the Prentiss Vise Co.

* * *

American Steam Gage & Valve Mfg. Co., Boston, plans moving its plant from Camden street, that city, to the plant of the Wright Machine Co., Worcester, Mass.

* * *

Canada Machinery Agency, Montreal, has moved its offices to 26 Victoria Square.

* * *

The Western Foundry Co., 3634 South Kedzie avenue, Chicago, has changed its name to the General Foundries Co. Butler, Lamb, Foster & Polk, 53 West Jackson boulevard, Chicago, are correspondents for the company. The company operates gray iron and aluminum foundries, having seven foundries. It also operates the Illinois Foundry & Specialty Co., Chicago Heights, Ill.

building, C. A. Peck and S. B. Monroe, Kalamazoo.

LANSING, MICH.—Lindell Die Casting plant here has installed equipment to increase production schedules.

LANSING, MICH.—Jarvis Engineering Works has completed an 8000-square foot addition to its assembly plant for structural steel work. Cranes have been installed.

HIBBING, MINN.—The village of Hibbing plans constructing 1-story, 38x90-foot power plant addition. Additional equipment will be purchased. O. A. Trezise, is secretary. Phelps Drake Co. is general contractor.

WINDOM, MINN.—Martin Peterson, clerk of the village, has taken bids for constructing $40,000 power plant.

KANSAS CITY, MO.—Swedish Crucible Steel Co. has been incorporated with $10,000 capital by Nels L. Olson.

KANSAS CITY, MO.—Motor Accessories Corp., has acquired a 3-story building at Eighteenth and Wyandotte streets, where it will manufacture radiator caps and other automotive equipment.

KANSAS CITY, MO.—Anderson-Pitt Corp., just organized, will manufacture electric heaters and other articles. Pending construction of a plant products will be manufactured under contract. Fred D. Pitt, formerly assistant general manager of the Irving-Pitt Mfg. Co. is president and treasurer of the new company. William Pitt, a founder of the Irving-Pitt business will be a director of his son's company. E. E. Anderson is vice president and W. H. Cloud secretary.

ST. LOUIS—United States Slicing Machine Co., 906 North Broadway, has been incorporated with C. A. Breeden as incorporator.

ST. LOUIS—Texas Oil Co. has awarded contracts to McKelvey Construction Co., 706 Chestnut street, for constructing 1-story, 45x 145-foot garage and repair shop.

ST. LOUIS—Public utilities committee of the board of aldermen have reported favorably on a $950,000 bond issue for constructing a municipal service building at Twelfth street and Clark avenue.

GREAT FALLS, MONT.—A large steel plant is to be erected here according to reports from the president of the Montana Iron Co.

AUDUBON, N. J.—Manual training department is to be included in a $200,000 high school, bids on which were closed June 29.

JERSEY CITY, N. J.—Barnes Mfg. Co., West Side avenue and Corbin place, was damaged by fire recently with heavy loss. Rebuilding is being contemplated.

KEARNEY, N. J.—Curley-Nelson Co. has been incorporated for $50,000 to deal in tools and machinery, by Gustav A. Nelson, William E. Curley and Henry Carless, with the latter as attorney.

KEARNEY, N. J.—General Hardware & Supply Co. has been incorporated for $25,000 to manufacture and deal in hardware, by Abe Selikoff, Stanley A. Dennis, and Leonard Bear, with Maurice Grossman, Harrison, N. J., as attorney.

LONG BEACH, N. J.—Moes Auto Co., Inc.,

Iron and Manganese Ores and Minerals

Iron Ore

LAKE SUPERIOR ORES

Per Gross Ton Lower Lake Ports

Old range bessemer, 51½ per cent iron	$4.55
Mesabi bessemer, 55 per cent iron	4.40
Old Range nonbessemer, 51½ per cent iron	4.40
Mesabi nonbessemer, 51½ per cent iron	4.40
	4.25

EASTERN LOCAL ORES

Cents per unit delivered at Eastern Pennsylvania and New Jersey furnaces

Foundry and basic 53 to 63 per cent	9.00 to 10.00
Copper free low phosphorus 53 to 65 per cent	nominal

FOREIGN IRON ORE

Cents per unit, f.o.b. cars Atlantic ports

Spanish low phosphorus, 52 to 54 per cent	8.00 to 9.50
Algerian low phosphorus, 52 to 54 per cent	8.00 to 9.50
Swedish and Norwegian low phosphorus, 68 per cent	11.00 to 11.50
Swedish foundry or basic, 66 to 68 per cent	9.00 to 10.00
Spanish foundry or basic, 50 to 54 per cent	8.50 to 9.00
Algerian foundry and basic, 50 to 54 per cent	8.50 to 9.00

Manganese Ore

Prices do not include duty at rate of 1 cent per pound of metallic manganese contained.

Brazilian, minimum 47 per cent.	nominal
Indian, minimum 47 per cent	nominal
Caucasian, 53 to 55 per cent	
....Washed, 43 to 45 cents c.i.f. tidewater	

Fluor Spar

85 and 5 per cent grade

Washed gravel, Kentucky and Illinois mines, per net ton	$16.00 to 17.00
Washed gravel, imported duty paid eastern tidewater, per net ton	17.25 to 18.00

has been incorporated for $25,000 to manufacture and deal in automobile supplies, by Moe Brousell, Anna Brousell and Frank J. Bryson, with John C. Giordana, Long Branch, as attorney.

NEWARK, N. J.—Electrical equipment will be manufactured by the Wittenberg Mfg. Co., 60 Shipman street, recently incorporated, with E. H. Wittenberg as the head.

NEWARK, N. J.—A $150,000 machine shop will be erected at 222 Bloomfield avenue, by the Public Service Railway Co., Terminal building.

NEWARK, N. J.—Marshall Brass & Bronze Foundry Co. has been incorporated for $50,000 by George H. Marshall, Joseph A. Segall, and Samuel Kerzner, with Frankel & Distler, Newark, as attorneys.

NEWARK, N. J.—Kingsland & Co., Inc., 75 Manufacturers Place, has been organized with $125,000 capital, to manufacture sheet metal workers' machinery and equipment. Frank N. Kingsland is president.

NEWARK, N. J.—Angle Concrete Mold Corp. has been formed with $300,000 capital, by William C. Kendal, Albert C. Marsh, East Orange, and William H. Jennys, New York, with William F. Smith, New York, as attorney.

NEWARK, N. J.—General Steel Foundries has been incorporated with $300,000 preferred and 6000 shares no par common, by Garfield Kilpatrick, East Orange; Nathan Bilder, South Orange and John H. Meister, Irvington. Bilder & Bilder, Newark, are attorneys.

ORANGE, N. J.—Vosburgh Miniature Lamp Co. has purchased a plot on Mitchell street, adjoining the Lackawanna railroad, where it will construct a plant.

PLAINFIELD, N. J.—Brandeis Electric Mfg. Corp. has been incorporated for $125,000 to manufacture electrical supplies. McDonough & McDonough, Plainfield, are attorneys.

BROOKLYN, N. Y.—The Mortensen Woodworking Co., Sixty-first street and Eighth avenue, will build a $60,000 extension to its woodworking shop.

BROOKLYN, N. Y.—Newport Iron Works, has been incorporated for $20,000 by W. Sparago and H. Zucker, with E. F. Kirk, 105 Court street, as attorney.

BROOKLYN, N. Y.—Evernu Lamp Mfg. Corp. has been oragnized at 1050 Metropolitan avenue, to manufacture metal specialties such as bridge lamps.

BROOKLYN, N. Y.—National Lead Co., 135 Marshall street, has plans for constructing 1-story, 123x143-foot reinforced concrete plant. William Higginson, 15 Park Row, New York, is architect.

BROOKLYN, N. Y.—Vivader Mailing Machine Co. has been incorporated for $500,000 to manufacture mail handling machinery. D. G. Englander, Englander Bed Spring Co., Johnson and Stewart avenues, is interested.

BROOKLYN, N. Y.—Erection of a $75,000, 100x120-foot branch plant, two stories high, on De Bevoise Place, is contemplated by the Crane Co., 836 Michigan avenue, Chicago. Raymond Hood, 18 East Forty-first street, New York is architect.

BUFFALO, N. Y.—Harvey Hanes Machine Co., 308 Terrace street, in charge of L. E. Harman, plans constructing 2-story, 50x90-foot brick machine shop on Mechanic street. E. H. Reidpath, 28 Hartwell road, is architect.

HOOSICK FALLS, N. Y.—Hoosick Foundries have been incorporated with 20,000 shares $10 par value preferred and 30,000 no par value common, by H. Burden, F. L. Hilton and C. M. Marvin, with T. Garrett, Jr., 15 Broad street, New York, as attorney.

Refractories

FIRE CLAY BRICK
Per 1000 f.o.b. works

Pennsylvania, No. 1	$43.00 to 46.00
Pennsylvania, No. 2	40.00 to 43.00
Ohio, No. 1	43.00 to 46.00
Ohio, No. 2	40.00 to 43.00
Illinois, No. 1	40.00 to 43.00
Illinois, No. 2	36.00 to 40.00
Kentucky, No. 1	43.00 to 45.00
Kentucky, No. 2	40.00 to 43.00
Missouri, No. 1	45.00 to 48.00
Missouri No. 2	38.00 to 40.00
Maryland, No. 1	43.00 to 47.00
Maryland, No. 2	39.00 to 42.00

SILICA BRICK

Pennsylvania	$40.00
Chicago	49.00
Birmingham	48.00 to 52.00

MAGNESITE BRICK
Per Net Ton Seaboard Base

9 x 4½ x 2½	$65.00

CHROME BRICK
(Per Net Ton)

9 x 4½ x 2½	$48.00

JAMESTOWN, N. Y.—An addition to the Steele street lighting plant is contemplated for construction this summer. The board of public utilities is in charge of the construction.

LONG ISLAND CITY, N. Y.—Andrew Lead Co., Review and Greenpoint avenues, has awarded general contract to Walter J. Bond, 511 Broadway, Brooklyn, for a 3-story, 32x56-foot plant addition. Gregory R. Webb, 10 East Forty-third street, New York, is architect.

NEW YORK—General contracts have been let to Balaban Gordon Co., 116 West Thirty-ninth street, for a school and machine shop.

NEW YORK—The Long Island railroad has closed on a tonnage of steel bars for shops to the Turner Construction Co.

NEW YORK—Plant of the Liberty Iron Pipe & Nipple Works, 64 Green street, was recently damaged by fire.

NEW YORK—Chesterfield Iron Works has been incorporated for $5000 by I. Rosenblatt, M. Lipack and W. Weinberger, with A. Hulnick, 3208 Third avenue, as attorney.

NEW YORK—American Birotadruck Co. has been incorporated with $100,000 capital, to build printing machinery, by F. H. Butehorn, F. C. Taylor and R. A. MacLean, with W. A. Carden, 25 Broad street, as attorney.

NEW YORK—Magnum Oil Burner Corp. has been incorporated for $25,000 to manufacture and deal in heating apparatus, by I. Finkel, C. Herme and I. Shumunis, with I. Josephson, 1482 Broadway, as attorney.

NEW YORK—Prentiss Vise Co., 106 Lafayette street, has purchased the Henry Cheney Hammer Corp., Little Falls, N. Y., and will make hammers. F. H. Mulford is president of the Prentiss company.

NEW YORK—Lamb Car Bumper Corp. has been incorporated with $10,000 capital to manufacture a new type automobile bumper. H. H. Cannon, is interested. Ribman & Ribman, 949 Broadway, are attorneys.

NEW YORK—Sattler Tool Co. has been incorporated with 200 shares $100 par value preferred and 100 shares no par value common, by C. Sattler, F. Billman, and A. Pierjni, with R. O. Barclay, 375 Fulton street, Brooklyn, as attorney.

NEW YORK—National Standard Threadless Coupling Corp., 68 William street, has been incorporated with $50,000 capital and 200 shares no par value, to manufacture a new type hose coupling. T. J. Bagley is president and E. W. Ernst is treasurer.

NEW YORK—Cornine-Hakanson Die-Casting Co., Inc., 402 East 152nd street, has been organized to manufacture alloy dies and castings. Marshall Cornine, former sales manager of the Republic Die Casting Co. is president of the new company.

NEW YORK—Contract for 400 tons of structural steel has been awarded by the H. W. Johns-Manville Co., Madison avenue and Forty-first street, for a new plant to be erected at Pittsburgh, Cal., to cost $500,000 with equipment.

NEW YORK—Bids will be received shortly by the Lake Island Refining Corp. 25 West Forty-Third street, for the erection of a $500,000 plant at Tottenville, S. I., for the manufacture of industrial chemicals. Ophuls & Hill, 112 West Forty-Second street, are engineers in charge.

NEW YORK—Erie Railroad Co., 50 Church street, with the New York and New Jersey tunnel commission, has acquired the former plant of the Safety Car Heating & Lighting Co., Jersey City, N. J. The railroad will use the plant for mechanical service. The Safety company removed its plant to New Haven, Conn., some time ago.

NIAGARA FALLS, N. Y.—Tiger Mfg. & Supply Co., recently incorporated, plans construction of plant to manufacture agricultural implements. George Stoll, 2835 McKoon avenue, is interested. (Noted July 2).

OSWEGO, N. Y.—Fitzgibbons Boiler Co. has been reported as seeking two 15-ton cranes.

QUEENS, L. I., NEW YORK—Stand-By Safety Iron Corp. has been incorporated for $15,000 by J. Pandolfo, J. B. Baron and L. Laxer, with W. Weisman, 150 Broadway, as attorney.

ROCHESTER, N. Y.—Interstate Machinery Products Co., 56 Allen street, plans constructing 2-story, 35x80-foot plant addition of brick and stone. F. Buckley is in charge of expansion.

ROCHESTER, N. Y.—MacConnell Motor Corp. has been incorporated for $35,000 to deal in and repair automobiles, by W. W. MacConnell, H. L. Marsh and T. Jeffres, with A. N. Jones as attorney.

ST. GEORGE, STATEN ISLAND, N. Y.—Staten Island Edison Corp. has commissioned the J. G. White Engineering Corp., New York, to design and construct a conduit line and a substation containing both lighting and railroad service.

TONAWANDA, N. Y.—Air Devices, Inc., New York, has leased a part of a plant for the manufacture of air products, etc.

YONKERS, N. Y.—Alexander Smith & Sons has closed on structural steel to Bethlehem Fabricators, Inc. for a new boiler house.

ELIZABETH CITY, N. C.—Scott Sales Co., North Road street, will construct a plant

for the manufacture of harvesters and other agricultural implements.

AKRON, O.—Mueller Steam Bus Co. has been incorporated for $50,000 by Harry L. Mueller, Bertha Robinson, C. R. Briggs, George D. Mueller and Emma Mueller.

CLEVELAND—City of Cleveland, department of public utilities, Howell Wright, director, plans constructing a transformer house at Windsor avenue, 1-story, 35x48 feet, costing about $20,000.

DAYTON, O.—Albert Martin, 533 West Third street, plans constructing 1-story, 38x50-foot machine shop.

DAYTON, O.—Burkett Closed Body Co., builder of bus bodies, has purchased unit No. 5 of the defunct Davis Sewing Machine Co. plant auctioned recently. Extensive alterations have been started and production in the new unit is expected to start Sept. 1.

FINDLAY, O.—Buckeye Traction Ditcher Co. has awarded contracts to Alge Bros., this city for constructing 1-story, 100x175-foot plant. (Noted June 18.)

NEW PHILADELPHIA, O.—Canton Bridge Co., Canton, O., fabricator of structural steel, plans erection of plant here for that purpose.

STEUBENVILLE, O.—Stanton Motor Co., 320 North Fifth street, contemplates constructing 2-story, 75x140-foot and 50x50-foot brick garage and repair shop. A. G. Whitehouse, National Exchange Bank building, is architect. A. H. Snyder, is president of the Stanton company.

UPPER SANDUSKY, O.—Wyandotte Burial Vault Co., contemplates constructing 2-story brick and concrete plant. R. L. Carter and James Walker are interested.

OKLAHOMA CITY, OKLA.—Parrot Head Tool Co. has been organized to manufacture drop forged tools, including wrenches and pliers. Samuel Pledger is general production manager.

TULSA, OKLA.—Slater Bros. Turnbuckle Rig Co., Sand Springs, plans doubling its present capacity this year. A plant, 200x300 feet now is under construction on a 10-acre site. Three turnbuckle rigs a day now are being produced. Fifteen years ago, Guy Slater, president of the company, invented the turnbuckle rig.

ARNOLD, PA.—Arnold Machine Co. has been incorporated for $100,000 to manufacture tools, by A. Giuseppe, John H. Rich and Mike Ricci.

ATOONA, PA.—The old Bellwood Foundry was damaged by fire recently. The molding and cleaning rooms were damaged badly but the pattern room and machine shop were saved. The fire did not damage the Skaferburg Bros. foundry near there.

BETHLEHEM, PA.—Holland Furnace Co., Holland, Mich., has awarded the general contract to Clement Construction Co., this city, for a 1 and 2-story, 140x500-foot office and plant building of concrete and steel. A. H. Landwehr is treasurer and general manager of the Holland company.

BLOOMSBURY, PA.—The A. H. Moore Co., Milton, Pa., has been awarded the general contract for the erection of a plant addition for the McGee Carpet Co.

DUQUESNE, PA.—Work has been started on the $10,000,000 addition to the Colfax plant of the Duquesne Light & Power Co. John F. Casey Co., Pittsburgh, is doing the excavating work.

ELIZABETHTOWN, PA.—Construction of the Thomas Rankin Patton Memorial Industrial school for boys is contemplated, to include machine, brick and carpenter shops, etc. E. A. Wightman, Bankers Trust building, Philadelphia, is architect.

ERIE, PA.—Erie Malleable Iron Co. plans establishment of a box department at its West Twelfth street plant. A threadless conduit fitting will be the product of the new department.

JOHNSTOWN, PA.—The board of education is in the market for equipping a woodworking and metalworking department for vocational training.

PHILADELPHIA—Abrasive Co., Tacony and Fraley streets, plans 1-story addition to its plant.

PHILADELPHIA—Bids have been closed by the Baldinger Co., architect, on a power plant addition for Blumenthal Bros., James and Market streets.

PHILADELPHIA—Millard F. Wilfong Iron Works Co., Fifty-second street, has been damaged by fire with severe loss. The company manufactured patent annealing boxes.

PHILADELPHIA—Contract has been awarded by the Atlas Electric Co., 1218 for the erection of a 2-story repair shop, 56x72 feet, at 916 Green street.

PHILADELPHIA—Bids have just been closed by Franklin M. Davis, architect, for a factory building for McCalla & Co. Inc., 3640-44 Market street.

PHILADELPHIA—Plans have been prepared by A. Fisher for a $20,000 machine shop and repair shop at Huntington, Pa. Henry L. Reinhold, Jr. 1513 Walnut street, this city, is architect.

PHILADELPHIA—Atlas Electric Co., 1212 Hamilton street, has awarded contracts to Farrell-Roth Construction Co., Inc., 1624 Spruce street, for constructing 2-story, 36x74-foot manufacturing plant.

PHILADELPHIA—Electrocoal Grate Co., 628 Commerce street, will contract its stove grate production but will assemble and finish the products before sale. The company recently was formed with R. W. Auer, as president.

PHILADELPHIA—Contract for a car house and shop additions at Forty-first and Holly streets has been awarded by the Philadelphia Rapid Transit Co., 810 Douphin street, to H. E. Baton, Inc., 1713 Sansom street.

PHILADELPHIA—Schwartz Wheel Co., Market street and Pennsylvania railroad, manufacturer of automobile wheels, contemplates rebuilding the portion of its plant recently badly damaged by fire. The damage was estimated at $50,000.

PITTSBURGH—Copper Welding Corp. has leased a foundry on Wayne street for a new plant.

PITTSBURGH—M. N. Landay Co., First National Bank building, has been incorporated for $75,000 to deal in iron and steel scrap, foundry specialties, and rails. M. N. Landay is president.

READING, PA.—The General Die Castings Co., has completed the first of three new units for the production of die castings.

READING, PA.—Glenside Metal Foundry Co., 208 Butler street, has been incorporated with William McKinney as president of manufacture metal products, especially aluminum.

ROCHESTER, PA.—National Pipe Products Corp. has been incorporated for $25,000 to manufacture iron and steel pipe, nipples, etc., with A. Blackstone as general manager.

TYRONE, PA.—J. C. Williamson Foundry Co., Bellwood, near here, was damaged by fire recently with heavy loss. Considerable equipment was damaged.

WILKES-BARRE, PA.—Wyoming Supply & Mfg. Co. is to manufacture plumbers' supplies. A. C. Campbell is organizer.

MEMPHIS, TENN.—Hamilton Casket Co. has been incorporated for $75,000 by O. M. Hamilton, 156 North Clarke place.

KNOXVILLE, TENN.—Power Equipment Co., 309 Bankers' Trust building, has been incorporated as electrical contractor on large construction projects.

BEEVILLE, TEX.—Grunders Industries, Inc., plans constructing 160x396-foot warehouse and machine shop.

BRACKENRIDGE, TEX. — Robbins-Mason Co. plans construction soon of a 100 x 100-foot garage and repair shop.

SPOKANE, WASH.—A. E. Cranston, box manufacturer is constructing a large frame building to be used temporarily as a machine shop.

HUNTINGTON, W. VA.—Bids for constructing a boiler shop for the Chesapeake & Ohio railroad will be taken shortly. The building is to be 104x140 feet, with a 90-foot boiler shop bay. Two 15-ton electrical traveling cranes in the machine bay, a 50-ton electric traveling crane and a number of two and five ton cranes will be purchased.

MASCOTT, W. VA.—Worrell Mine Tie & Fasteners Co. has been incorporated for $50,000 to manufacture rail fasteners, metal ties, etc., by R. H. Worrell, J. G. Durant and others.

PARKERSBURG, W. VA.—The board of education is seeking vocational training equipment for school, such as woodworking and metalworking tools.

CLINTON, WIS.—The Progressive Tool Co. of Beloit, Wis., specializing in the manufacture of rotary pumps, has purchased the three buildings of the former Clinton Mfg. Co. here and will move the plant about July 15, increasing its force two to three fold and the output correspondingly.

EAU CLAIRE, WIS.—Schaefer & Olson, Chippewa Falls, Wis., are the successful bidders at $323,000 for the general work on the new Eau Claire senior high school. Contracts let June 29 amount to nearly $500,000. With equipment the school will cost about $700,000. Architect E. J. Hancock, Eau Claire, is in charge.

GREEN BAY, WIS.—Damage of $7000 to $8000 was occasioned by fire on the second floor of the metal shop of the Northern Corrugating Co. here. The painting and drying room sustained the greatest loss. Repairs now are being made.

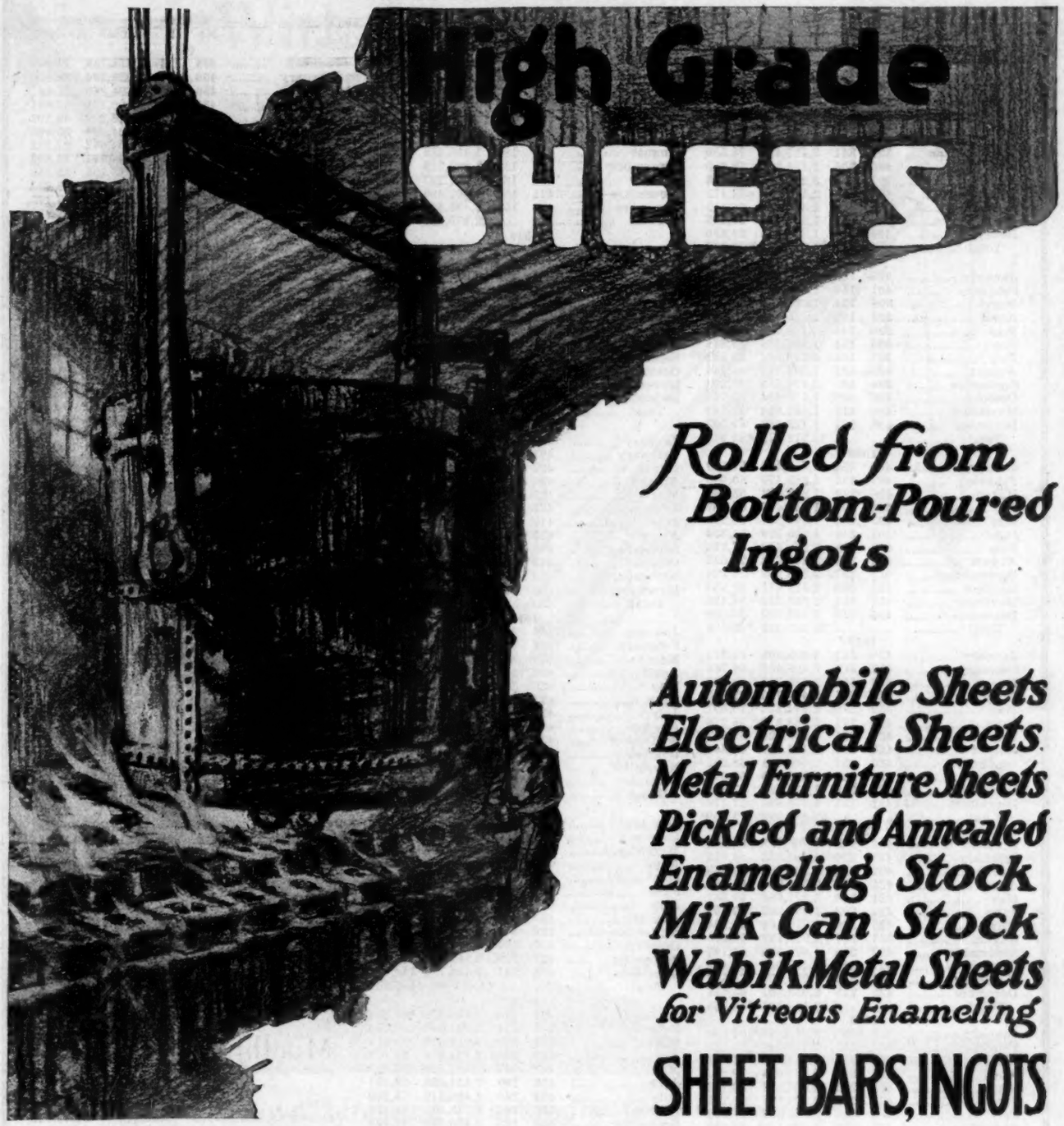
MILWAUKEE—Mueller Service Station, 682 Twelfth street, plans purchase of equipment. R. Mueller is purchasing agent.

MILWAUKEE—R. E. Stoleting, commissioner of public works, is in the market for a 10-ton caterpiller type full revolving crane unit.

MILWAUKEE—Lindsay Bros., 78 Reed street, have awarded contracts for reconstructing the 3-story, 65 x 135-foot plant recently damaged by fire. The company manufactures agricultural implements.

MILWAUKEE—A $25,000 addition to be equipped as a laundry for handling textiles to be used for wipers will be erected by the Wisconsin Waste & Wiper Co. at 709-711 Windlake avenue. Plans have been completed by Architect S. F. Kadow, and contracts will be placed immediately.

MANSFIELD



Rolled from Bottom-Poured Ingots

Automobile Sheets
Electrical Sheets
Metal Furniture Sheets
Pickled and Annealed
Enameling Stock
Milk Can Stock
Wabik Metal Sheets
for Vitreous Enameling

SHEET BARS, INGOTS

Mansfield Sheet & Tin Plate Company

Mansfield, Ohio

District Sales Offices

Detroit, Mich.—12-237 General Motors Bldg.
Chicago, Ill.—1372 Wrigley Bldg.
New York, N. Y.—1106 National City Bldg.
Cleveland, Ohio—2002 Union Trust Bldg.
Philadelphia, Pa.—1504 West Venango St.
Indianapolis, Ind.—1403 Merchants Bank Bldg.
Cincinnati, Ohio—1020 Union Trust Bldg.
St. Paul, Minn.—640 Endicott Bldg.
San Francisco, Cal.—237 Rialto Bldg.
Los Angeles, Cal.—509 Wilcox Bldg.
Seattle, Wash.—1426 L. C. Smith Bldg.

Iron and Steel Production

Compiled by IRON TRADE REVIEW

Pig Iron

	Stacks No.	Stacks In	Output Total	Output Av.Daily
1907				
January	376	311	2,174,801	70,155
February	374	308	2,047,036	73,109
March	377	304	2,186,709	70,539
April	378	327	2,226,708	74,223
May	391	329	2,291,030	73,904
June	392	341	2,237,420	74,580
July	396	335	2,253,243	72,685
August	397	329	2,243,656	72,376
September	399	329	2,174,148	72,471
October	401	314	2,359,690	76,119
November	398	226	1,820,558	60,685
December	398	154	1,234,733	39,830
Total	.....	.....	25,249,732	*69,177
1908				
January	398	139	1,081,813	34,897
February	401	150	1,086,809	37,476
March	398	154	1,229,856	39,672
April	398	146	1,155,122	38,504
May	396	145	1,168,002	37,677
June	395	154	1,106,300	36,876
July	397	166	1,228,604	39,632
August	399	181	1,366,019	44,065
September	399	189	1,416,252	47,208
October	400	200	1,573,824	50,764
November	402	212	1,582,314	52,744
December	403	221	1,723,664	55,602
Total	.....	.....	15,718,579	*42,947
1909				
January	406	234	1,787,473	57,683
February	407	233	1,682,470	60,088
March	406	229	1,822,024	58,793
April	406	224	1,731,406	57,687
May	407	236	1,866,757	60,218
June	408	240	1,929,929	64,334
July	409	258	2,088,620	67,375
August	412	278	2,232,642	72,021
September	413	297	2,378,655	79,201
October	413	309	2,589,681	83,538
November	414	311	2,532,740	84,425
December	416	314	2,682,702	86,539
Total	.....	.....	25,325,099	*69,383
1910				
January	416	311	2,599,995	83,871
February	417	311	2,429,525	86,768
March	417	310	2,588,736	83,508
April	418	291	2,477,700	82,590
May	419	279	2,374,802	76,607
June	420	271	2,288,279	76,276
July	420	264	2,158,124	69,617
August	422	244	2,103,791	67,864
September	420	234	2,048,461	68,282
October	421	230	2,086,205	67,297
November	421	218	1,910,385	63,679
December	421	193	1,779,899	57,416
Total	.....	.....	26,845,902	*73,550
1911				
January	421	210	1,766,658	56,985
February	421	226	1,781,285	63,617
March	421	236	2,165,764	69,863
April	421	220	2,044,904	68,163
May	421	206	1,871,388	60,367
June	421	202	1,773,282	59,109
July	423	196	1,776,108	57,294
August	423	206	1,921,832	61,995
September	423	216	1,973,918	65,797
October	421	214	2,092,061	67,486
November	421	214	1,999,100	66,637
December	422	215	2,032,301	65,558
Total	.....	.....	23,198,601	*63,558
1912				
January	421	227	2,052,806	66,220
February	422	235	2,098,796	72,372
March	420	237	2,411,529	77,791
April	421	239	2,377,621	79,254
May	423	243	2,503,341	80,753
June	424	242	2,433,737	81,125
July	422	245	2,402,567	77,502
August	423	255	2,500,163	80,650
September	419	262	2,444,454	81,482
October	422	280	2,683,645	86,569
November	423	289	2,639,562	87,985
December	423	291	2,777,292	89,590
Total	.....	.....	29,325,513	*80,124
1913				
January	423	297	2,787,800	89,929
February	423	306	2,578,670	92,095
March	423	278	2,762,823	89,123
April	421	297	2,754,353	91,812
May	421	285	2,816,825	90,865
June	422	283	2,616,883	87,229
July	422	264	2,558,275	82,525
August	424	260	2,537,018	81,839
September	425	258	2,494,098	83,137
October	425	244	2,539,924	81,933
November	424	225	2,229,960	74,322
December	424	191	1,976,138	63,746
Total	.....	.....	30,652,767	*83,980
1914				
January	423	199	1,879,336	60,624
February	423	219	1,888,607	67,450
March	423	232	2,341,551	75,534
April	422	212	2,261,501	75,383
May	422	198	2,097,019	67,646
June	422	193	1,904,566	63,486
July	422	187	1,955,324	63,075
August	422	187	1,996,483	64,403
September	422	180	1,882,718	62,757
October	423	162	1,767,227	57,007
November	421	150	1,501,269	50,042
December	421	154	1,495,325	48,236
Total	.....	.....	22,970,926	*62,934
1915				
January	421	165	1,591,024	51,323
February	421	179	1,666,592	59,521
March	421	190	2,046,280	66,009
April	421	197	2,114,518	70,484
May	421	207	2,255,157	72,747
June	421	221	2,369,932	78,998
July	421	234	2,563,311	82,687
August	421	246	2,774,825	89,510
September	420	266	2,834,342	94,478
October	420	276	3,120,340	100,656
November	421	285	3,035,235	101,174
December	421	295	3,201,605	103,278
Total	.....	.....	29,573,161	*81,022
1916				
January	421	304	3,171,878	102,319
February	421	312	3,078,548	106,157
March	422	315	3,327,630	107,343
April	422	320	3,225,496	107,517
May	423	321	3,364,584	108,535
June	423	325	3,213,818	107,127
July	419	316	3,221,127	103,907
August	419	317	3,197,838	103,156
September	419	326	3,208,041	106,935
October	419	328	3,508,180	113,167
November	420	322	3,317,805	110,593
December	422	309	3,184,178	102,715
Total	.....	.....	39,019,123	*106,609
1917				
January	422	310	3,159,839	101,930
February	422	317	2,649,935	94,641
March	423	331	3,255,813	105,026
April	425	333	3,328,061	110,936
May	425	340	3,413,677	110,119
June	427	347	3,260,234	108,675
July	429	351	3,337,442	107,659
August	431	357	3,238,970	104,483
September	431	342	3,140,742	104,691
October	433	354	3,296,286	106,332
November	434	344	3,198,597	106,620
December	435	321	2,885,380	93,077
Total	.....	.....	38,164,976	*104,561
1918				
January	435	294	2,403,227	77,523
February	435	319	2,318,242	82,723
March	438	338	3,209,996	103,548
April	437	351	3,273,355	109,112
May	437	360	3,451,884	111,351
June	437	353	3,316,148	110,538
July	437	364	3,408,584	109,954
August	439	371	3,378,479	108,983
September	438	364	3,413,225	113,774
October	437	364	3,482,392	112,335
November	437	360	3,347,844	111,595
December	435	351	3,434,114	110,778
Total	.....	.....	38,437,488	*105,308
1919				
January	435	330	3,306,279	106,654
February	435	311	2,943,347	105,120
March	435	279	3,088,023	99,614
April	435	216	2,474,374	82,479
May	433	197	2,107,729	67,991
June	433	199	2,114,028	70,467
July	434	240	2,424,212	78,200
August	432	266	2,742,081	88,453
September	433	163	2,480,790	82,692
October	432	216	1,864,424	60,142
November	432	252	2,407,369	80,244
December	432	262	2,626,074	84,711
Total	.....	.....	30,578,730	*83,777
1920				
January	432	285	3,012,373	97,172
February	432	305	2,984,257	102,904
March	433	315	3,375,768	108,895
April	433	278	2,752,670	91,754
May	433	297	2,991,825	96,510
June	433	302	3,046,623	101,553
July	434	291	3,043,918	98,190
August	434	306	3,145,536	101,468
September	434	317	3,124,308	104,143
October	435	290	3,288,341	106,075
November	435	255	2,935,081	97,836
December	435	202	2,700,268	87,105
Total	.....	.....	36,400,968	*99,456

*Average.

	Stacks No.	Stacks In	Output Total	Output Av.daily
1921				
January	436	184	2,414,753	77,895
February	436	155	1,929,394	68,906
March	436	103	1,594,866	51,447
April	436	96	1,190,751	39,691
May	436	90	1,215,272	39,202
June	436	74	1,064,007	35,466
July	435	69	864,642	27,892
August	436	69	954,901	30,802
September	435	84	985,795	32,859
October	435	95	1,234,450	39,821
November	429	120	1,414,958	47,165
December	429	123	1,642,775	52,992
Total	.....	.....	16,506,564	*45,223
1922				
January	430	127	1,645,804	53,090
February	429	139	1,630,180	58,220
March	429	155	2,035,908	65,674
April	429	161	2,070,161	69,005
May	427	175	2,309,348	74,495
June	427	191	2,362,455	78,748
July	427	170	2,403,030	77,517
August	427	143	1,810,665	58,408
September	427	189	2,024,008	67,466
October	428	218	2,629,655	84,827
November	428	241	2,846,110	94,870
December	428	253	3,083,520	99,468
Total	.....	.....	26,850,844	*73,563
1923				
January	428	261	3,228,226	104,136
February	424	278	2,993,918	106,925
March	424	295	3,523,595	113,664
April	423	311	3,547,012	118,233
May	423	322	3,868,486	124,790
June	424	322	3,667,868	122,262
July	418	299	3,684,677	118,860
August	418	270	3,448,886	111,254
September	418	254	3,117,526	103,917
October	418	245	3,142,642	101,375
November	418	229	2,891,191	96,373
December	418	231	2,912,527	93,952
Total	.....	.....	40,025,850	*109,659
1924				
January	414	248	3,015,480	97,273
February	414	263	3,073,619	105,987
March	410	269	3,465,389	111,787
April	410	234	3,226,107	107,537
May	411	187	2,619,986	84,515
June	411	158	2,022,836	67,427
July	411	145	1,783,457	57,531
August	411	150	1,882,986	60,741
September	411	174	2,053,617	68,454
October	411	182	2,461,727	79,410
November	411	204	2,514,979	83,832
December	411	229	2,956,389	95,367
Total	.....	.....	31,076,572	*84,908
1925				
January	411	251	3,372,207	108,781
February	411	256	3,214,067	114,788
March	410	246	3,571,422	115,207
April	409	221	3,211,235	107,041
May	405	196	2,933,907	94,642
June	401	191	2,678,992	89,299

Ingots and Castings

By American Iron and Steel Institute

By American Iron and Steel Institute.....

	Ingots	Castings	Total
1922	34,568,418	1,034,508	35,602,926
1923	43,485,665	1,458,031	44,943,696
1924	36,811,157	1,120,782	37,931,939

Monthly Ingot Output

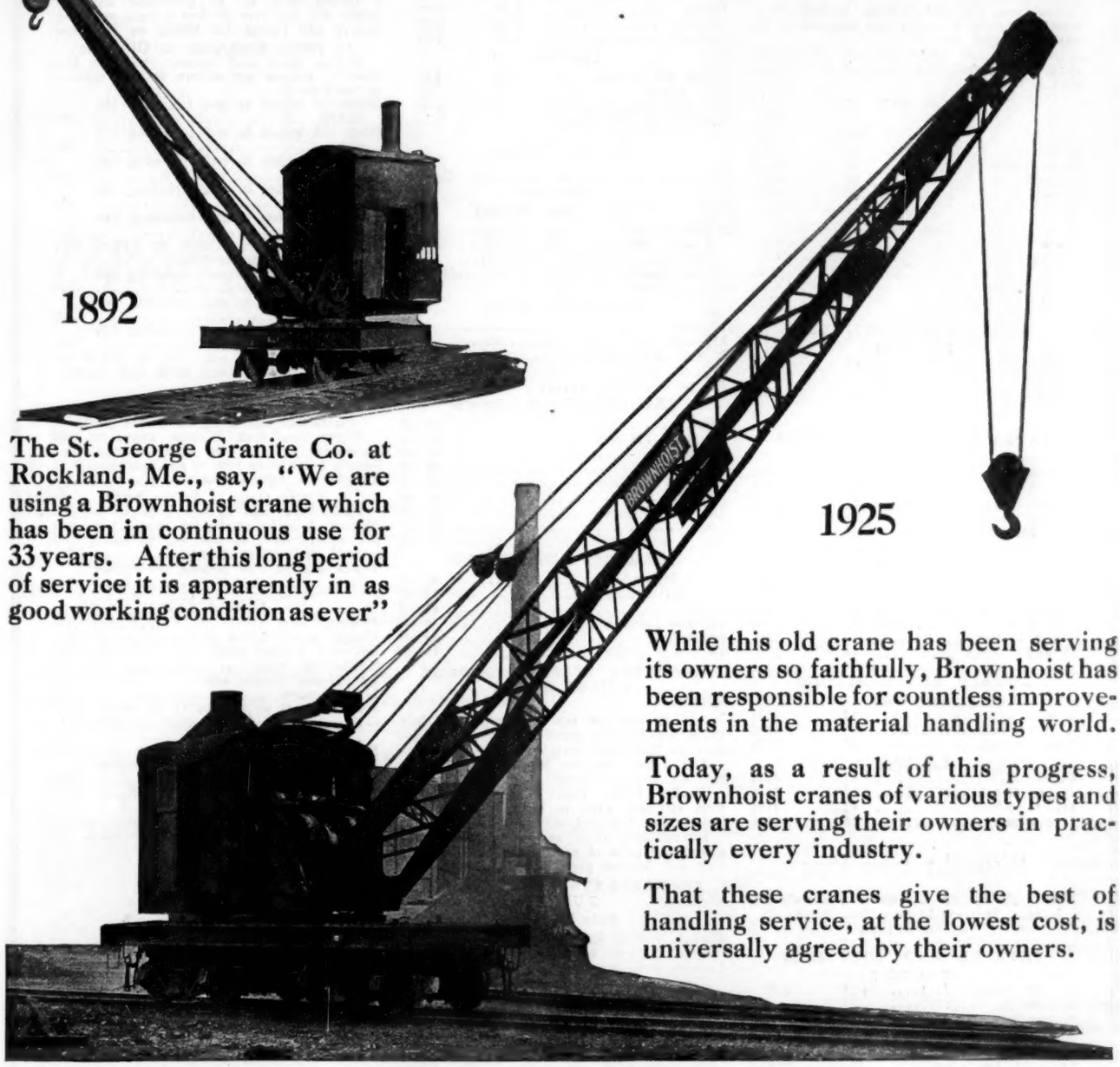
Gross Tons

1924	94.43 per cent of capacity	Calculated total
January	3,446,143	3,649,913
February	3,612,631	3,826,246
March	3,971,844	4,206,699
April	3,161,525	3,348,466
May	2,492,643	2,640,034
June	1,950,352	2,065,676
July	1,772,954	1,877,789
August	2,410,365	2,552,891
September	2,669,762	2,827,625
October	2,950,929	3,125,418
November	2,946,899	3,121,149
December	3,369,984	3,569,251
Total	34,756,031	36,811,157
1925		
January	3,964,704	4,198,564
February	3,547,020	3,756,243
March	3,964,662	4,198,520
April	3,387,699	3,587,524
May	3,265,628	3,458,253

A Lifetime of Dependable Service—With Lowest Handling Costs

1892

The St. George Granite Co. at Rockland, Me., say, "We are using a Brownhoist crane which has been in continuous use for 33 years. After this long period of service it is apparently in as good working condition as ever"



1925

While this old crane has been serving its owners so faithfully, Brownhoist has been responsible for countless improvements in the material handling world.

Today, as a result of this progress, Brownhoist cranes of various types and sizes are serving their owners in practically every industry.

That these cranes give the best of handling service, at the lowest cost, is universally agreed by their owners.

The Brown Hoisting Machinery Co., *Cleveland, Ohio*

Branch Offices: New York, Chicago, Pittsburgh, San Francisco, New Orleans, London, Eng.

BROWNHOIST

GOOD MATERIAL HANDLING MACHINERY

Discounts and Extras

Steel Pipe

Pittsburgh and Lorain basing discounts, jobber's carloads.

Evanston, Ill., and Indiana Harbor, Ind., take differential 2 points less discount of $4 per ton higher net.

Chicago takes differential 2½ points less than Pittsburgh-Lorain basis or $5 per ton higher net.

Butt Weld

	Black	Galvanized
⅛-inch	45	19½
¼ and ⅜-inch	51	25½
½-inch	46	42½
¾-inch	60	48½
1 to 3 -inch	62	50½

Lap Weld

2-inch	55	43½
2½ to 6-inch	59	47½
7 to 8-inch	56	43½
9 and 10-inch	54	41½
11 and 12-inch	53	40½

REAMED AND DRIFTED

Butt Weld

1 to 3-inch	60	48½

Lap Weld

2-inch	53	41½
2½ to 6-inch	57	45½

EXTRA STRONG—PLAIN ENDS

Butt Weld

⅛-inch	41	24½
¼ and ⅜-inch	47	30½
½-inch	53	42½
¾-inch	58	47½
1 to 1½-inch	60	49½
2 to 3-inch	61	50½

Lap Weld

2-inch	53	42½
2½ to 4-inch	57	46½
4½ to 6-inch	56	45½
7 to 8-inch	52	39½
9 and 10-inch	45	32½
11 and 12-inch	44	31½

DOUBLE EXTRA STRONG

Butt Weld

½-inch	42	32½
¾ to 1½-inch	45	35½
2 to 2½-inch	47	37½

Lap Weld

2-inch	41	32½
2½ to 4-inch	43	34½
4½ to 6-inch	42	33½
7 to 8-inch	38	25½

Wrought Iron Pipe

Pittsburgh basing discounts, jobbers' carloads. Individual quotations made on delivered basis

THREADS AND COUPLINGS

Butt Weld

¼ and ⅜-inch	+11	+39
½-inch	22	2
¾-inch	28	11
1 to 1½-inch	30	13

Lap Weld

1¼ and 1½-inch	Upon application	
2-inch	23	7
2½ to 6-inch	26	11
3 to 6-inch	28	13
7 to 12-inch	26	11

PLUGGED AND REAMED

Two points less than above

EXTRA STRONG, PLAIN ENDS

Butt Weld

¼ and ⅜-inch	+19	+54
½-inch	21	7
¾-inch	28	12
1 to 1½-inch	30	14

Lap Weld

2-inch	23	9
2½ to 4-inch	29	15
4½ to 6-inch	28	14
7 to 8-inch	21	7
8 to 12-inch	16	2

DOUBLE EXTRA STRONG

Butt Weld

½-inch	+47½	+59½
¾-inch	+28	+40
1-inch	+34	+40
1¼-inch	+28	+40
1½-inch	+27	+39

Lap Weld

2 and 2½ inches	+13	+25
3 to 4-inch	+ 8	+17
4½ to 6-inch	+ 9	+18
8-inch	+12	

Boiler Tubes

Pittsburgh less carload discounts. Carload 4 points larger

STEEL (Lap Welded)

2 and 2¼-inch	23 off
2½ and 2¾-inch	33 off
3-inch	36 off
3¼ to 3¾-inch	38½ off
4 to 13-inch	42 off

CHARCOAL IRON

1¼-inch	+22
1¾-inch	+12
2 and 2¼-inch	+ 2
2½ to 3-inch	3
3¼ to 4½-inch	5

SEAMLESS COLD DRAWN

1-inch	56 off
1¼ and 1½-inch	48 off
1¾-inch	32 off
2 and 2¼-inch	27 off
2½ and 2¾-inch	35 off
3-inch	41 off
3¼ and 3½-inch	43 off
4-inch	46 off
4½, 5 and 6-inch	41 off

SEAMLESS HOT ROLLED

2 and 2¼-inch	30 off
2½ and 2¾-inch	38 off
3-inch	44 off
3¼ and 3½-inch	46 off
4-inch	49 off
4½,5 and 6-inch	44 off

SEAMLESS STEEL MERCHANT BOILER TUBES

Extras:

Add $8 per net ton for more than four gages heavier than standard and add 10 per cent to theoretical weight.

Add 5 per cent for lengths over 24 feet and not over 26 feet.

Smaller tubes than 1-inch and lighter than standard gage to be sold at mechanical tubing list and discount.

Intermediate sizes and gages not listed above take price of next larger outside diameter and heavier gage.

SEAMLESS STEEL MECHANICAL TUBING

Base Discounts

Carbon, 0.10 to 0.20 per cent	83 off
Carbon, 0.30 to 0.40 per cent	81 off
Carbon, 0.40 to 0.50 per cent....net price	

Plus differentials and extras for cutting.

SEAMLESS STEEL LOCOMOTIVE AND SUPERHEATER TUBES

Net prices per foot f.o.b. Pittsburgh

Outside diameter	Gage	Price
2-inch	12-gage	14¼c
2-inch	11-gage	15c
2-inch	10-gage	16c
2¼-inch	12-gage	16c
2¼-inch	11-gage	17c
2¼-inch	10-gage	18c
3-inch	7-gage	33c
5¾-inch	9-gage	50c
5½-inch	9-gage	52c

Plus usual extras for forming and for long lengths.

Plate Extras

BASE

Rectangular plates, tank steel or conforming to manufacturers' Standard Specifications for structural steel, dated Nov. 24, 1922, or equivalent, ¼-inch thick and over on thinnest edge, (except for ¼ inch or 72 inches wide when ordered to weight in pounds per square foot—see width and gage extras), 100 inches wide and under, down to but not including 6 inches wide, 5 feet 0 inches long up to published limit in length but not over 80 feet 0 inch, are base Extras per Pound for Width or Diameter

All Plates, Rectangular or Otherwise

¼-inch thick and heavier, but not less than 11 pounds per square feet, if ordered to weight—

Over 100 inches to and including 110 inches	.05c
Over 110 inches to and including 115 inches	.10c
Over 115 inches to and including 120 inches	.15c
Over 120 inches to and including 125 inches	.25c
Over 125 inches to and including 128 inches	.50c

Plates less than ¼-inch or lighter than 11 pounds per square foot.

Over 72 inches to and including 84 inches	.10c
Over 84 inches to and including 96 inches	.20c
Over 96 inches to and including 100 inches	.30c

Over 100 inches add .35c to width extras for plates ¼ inch thick and heavier.

GAGE

Plates not Exceeding 72 inches Wide

Plates less than ¼-inch gage, to and including $\frac{7}{16}$-inch; or lighter than 10.2 pounds per square foot to and including 7.65 pounds per square foot ..... .20c

Plates Over 72 inches Wide

Plates less than ¼-inch gage to and including $\frac{7}{16}$-inch; or lighter than 11 pounds per square foot, to but not including 7.65 pounds per square foot ..... .20c

Plates ordered 7.65 pounds per square foot ..... .30c

QUALITIES

Pressing steel	.10c
Flange steel (boiler grade)	.15c
Ordinary firebox steel	.20c
Stillbottom steel	.30c
Locomotive firebox steel	.50c
Marine steel	1.50c

Hull material subject to U. S. Navy Dept. Specifications for Medium or Soft Steel ..... .10c

High tensile hull steel subject to U. S. Navy Dept., or equivalent specifications 1.00c

Boiler steel subject to U. S. Navy Dept. Specifications, classes A and B... 1.50c

Hull plates to hull specifications, required to stand cold flanging, take extra for flange steel.

Floor Plates

Checkered plates 1.75c

Checkered plates are not furnished to sketch and are rolled from "Stock Steel" only. No physical tests will be made on checkered plates.

INSPECTION

Mill inspection .....No extra

Charges for other inspection, such as Lloyd's or American bureau of shipping will be made by inspection bureau direct to buyer.

CUTTING

LENGTH or DIAMETER

All Plates, Rectangular or Otherwise

Five feet and over up to published limit of length, but not over 80 feet..No extras

Under 5 feet to 3 feet inclusive	.10c
Under 3 feet to 2 feet inclusive	.25c
Under 2 feet to 1 foot inclusive	.50c
Under 1 foot	1.55c
Over 80 feet to 100 feet inclusive	.25c

Over 100 feet add .25c plus .05c for every additional 2 feet or fraction thereof.

Regular Sketches

With not more than four straight cuts. (including straight taper plates)

Additional extra ..... .10c

Irregular Sketches

With not more than four straight cuts. (Sketches cannot be sheared with re-entrant angles)

Additional extra ..... .20c